

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1276	((717/107,163) or (700/19,275)). CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 14:30
S2	1490	step adj module	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:08
S3	389	machine adj automation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S4	677450	control adj system	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S5	677743	S3 S4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S6	242	S5 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S7	1	S1 and S6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S8	3	S1 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:11

EAST Search History

S9	5	S1 and S3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:29
S10	1	("6477435").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 14:29
S11	3	((("5940296") or ("6298474") or ("6401220")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:07
S12	1	("20040267515").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:09
S13	1	("6226783").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:11
S14	1	("5933638").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:12
S15	1	("6999841").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:20
S16	0	"8263278".fref.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:20
S17	0	"8263278".frpn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:21
S18	0	("8263278.frpn.").PN.	US-PGPUB; USPAT; USOCR; FPRS; JPO	OR	OFF	2006/11/29 15:20
S19	0	"8263278".frpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:21

EAST Search History

S20	0	jp8263278.frpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:21
S21	0	jp8263278.fref.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:22
S22	1	1996-510156	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:22
S23	49	(US-20040215355-\$ or US-20010052088-\$ or US-20020046397-\$ or US-20020054098-\$ or US-20060047695-\$ or US-20060259157-\$ or US-20050066320-\$ or US-20040059440-\$ or US-20030110151-\$ or US-20040153827-\$ or US-20050138649-\$ or US-20060130024-\$).did. or (US-5524253-\$ or US-6287765-\$ or US-6006277-\$ or US-6061602-\$ or US-6243857-\$ or US-6249882-\$ or US-6880106-\$ or US-6981226-\$ or US-5255197-\$ or US-5436730-\$ or US-5860007-\$ or US-7127303-\$ or US-4918427-\$ or US-4914612-\$ or US-4926033-\$ or US-5210140-\$ or US-6082946-\$ or US-6142073-\$ or US-6186437-\$ or US-4783718-\$ or US-5517635-\$ or US-5768632-\$ or US-6651186-\$ or US-6883163-\$ or US-6981245-\$ or US-6986132-\$).did. or (US-7073168-\$ or US-6185477-\$ or US-3604701-\$ or US-3681782-\$ or US-4519491-\$ or US-4631812-\$ or US-4787496-\$ or US-4965739-\$ or US-5239476-\$ or US-5340049-\$ or US-5372330-\$).did.	US-PGPUB; USPAT	OR	ON	2006/11/29 16:20

EAST Search History

S24	1279	((717/107,163) or (700/19,275)). CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/30 07:40
S25	1457	modul\$2 near (assembl\$3 link\$3) same machine	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S26	3	S24 and S25	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:53
S27	8	(US-20040267515-\$).did. or (US-6477435-\$ or US-6226783-\$ or US-5933638-\$ or US-6999841-\$ or US-6061602-\$ or US-5365606-\$).did. or (JP-08263278-\$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:34
S28	1	S25 and S27	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 07:56
S29	1	S25 and S27	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S30	34806	modul\$2 near (assembl\$3 link\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S31	2	S27 and S30	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S32	0	wo95/04314.ptpn.	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 08:58
S33	0	wo95/04314.ptpn.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/11/30 08:58

EAST Search History

S34	0	wo95/04314.ptpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:11
S35	0	wo9504314.ptpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 08:58
S36	36	"04314"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 08:58
S37	21	"711429"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S38	752	blevins.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S39	38	uniform and S38	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S40	21	template and S38	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01

EAST Search History

S41	2	S39 and S40	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S42	28	("5594858").URPN.	USPAT	OR	ON	2006/11/30 09:03
S43	80433	module and machine and product	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:53
S44	223	S24 and S43	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:23
S45	20710	module same machine and product	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:54
S46	66	S24 and S45	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:54
S47	301	module with library same machine and product	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:56
S48	6	S24 and S47	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:54
S49	64	module with library same automation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:16

EAST Search History

S50	3	S24 and S49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:57
S51	3165	parameter same configuration same engine	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:19
S52	243	S24 and "49"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:16
S53	702	parameter same configuration same engine same input	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:17
S54	1	S24 and S53	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:18
S55	350	parameter same configuration same engine same module	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:17
S56	1	S24 and S55	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:17
S57	251	parameter same configuration same engine and automation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:19

EAST Search History

S58	2	S24 and S57	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:19
S59	1349	product adj parameter	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:36
S60	3	S24 and S59	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:34
S61	6967	product near2 parameter	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:36
S62	15	S24 and S61	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:36
S63	1	("20020073094").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/30 14:35
S64	21171	access near2 level	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:35
S65	44	S24 and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:49
S66	4735	embed\$4 near2 module	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:50
S67	13113	embed\$4 near2 (module object)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:50

EAST Search History

S68	42	S24 and S67	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:57
S69	79	method near inlining	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:57

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» Key

IEEE JNL IEEE Journal or Magazine

IEE JNL IEE Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

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- ☐ 1. **A human machine interface for distributed virtual laboratories**
Gertz, M.W.; Stewart, D.B.; Khosla, P.K.;
[Robotics & Automation Magazine, IEEE](#)
Volume 1, Issue 4, Dec. 1994 Page(s):5 - 13
Digital Object Identifier 10.1109/100.388265
[AbstractPlus](#) | Full Text: [PDF\(1316 KB\)](#) [IEEE JNL](#)
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Results for "((machine <sentence> automation <and> module <paragraph> library)<in>pdfdata..."

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Modify Search

((machine <sentence> automation <and> module <paragraph> library)<in>pdfdata)

Search

☐ Check to search only within this results setDisplay Format: ☒ Citation ☐ Citation & Abstract

» Key

IEEE JNL IEEE Journal or Magazine

IEE JNL IEE Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

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View: 1-

- ☐ 1. **OOONEIDA: an open, object-oriented knowledge economy for intelligent automation**
Vyatkin, V.V.; Christensen, J.H.; Lastra, J.L.M.;
[Industrial Informatics, IEEE Transactions on](#)
Volume 1, Issue 1, Feb. 2005 Page(s):4 - 17
Digital Object Identifier 10.1109/TII.2005.843829
[AbstractPlus](#) | [References](#) | Full Text: [PDF\(1672 KB\)](#) IEEE JNL
[Rights and Permissions](#)
- ☐ 2. **A case study of fuzzy-logic-based robot navigation**
Valavanis, K.P.; Doitsidis, L.; Long, M.; Murphy, R.R.;
[Robotics & Automation Magazine, IEEE](#)
Volume 13, Issue 3, Sept. 2006 Page(s):93 - 107
Digital Object Identifier 10.1109/MRA.2006.1678143
[AbstractPlus](#) | Full Text: [PDF\(2787 KB\)](#) IEEE JNL
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- ☐ 3. **STEP-NC and function blocks for interoperable manufacturing**
Xu, X.W.; Lihui Wang; Yiming Rong;
[Automation Science and Engineering, IEEE Transactions on \[see also Robotic Automation, IEEE Transactions on\]](#)
Volume 3, Issue 3, July 2006 Page(s):297 - 308
Digital Object Identifier 10.1109/TASE.2005.862147
[AbstractPlus](#) | Full Text: [PDF\(1008 KB\)](#) IEEE JNL
[Rights and Permissions](#)
- ☐ 4. **Vertical migration of software functions and algorithms using enhanced microsequencing**
Papachristou, C.A.; Immaneni, V.R.;
[Computers, IEEE Transactions on](#)
Volume 42, Issue 1, Jan. 1993 Page(s):45 - 61
Digital Object Identifier 10.1109/12.192213
[AbstractPlus](#) | Full Text: [PDF\(1308 KB\)](#) IEEE JNL
[Rights and Permissions](#)
- ☐ 5. **The UMC software environment for machine control system integration, c and programming**
Carrott, A.J.; Moore, P.R.; Weston, R.H.; Harrison, R.;

File 347:JAPIO Dec 1976-2006/Ju1(updated 061116)

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File 350:Derwent WPIX 1963-2006/UD=200675

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Set	Items	Description
S1	19509	MACHINE(1w)AUTOMATION OR AUTOMATION()(PROGRAM? ? OR SOFTWARE OR APPLICATION? ? OR CONTROL???? OR PROCEDURE? ?) OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S2	33466	(PLANT OR FACTORY OR INSTRUMENT? ?)(3N)(AUTOMAT??? OR CONTROL????)
S3	7201	PROGRAMMABLE()LOGIC()CONTROLLER? ? OR PLC? ? OR PROCESS()AUTOMATION()CONTROL? ? OR PAC
S4	2193496	APPLICATION? ? OR PROGRAM? ? OR SOFTWARE OR ALGORITHM? ? OR PROCEDURE? ? OR CODE
S5	255575	S4(5N)(GENERAT? OR CREAT??? OR DEVELOP??? OR WRIT??? OR AUTHOR? OR CONSTRUCT? OR BUILD??? OR BUILT OR PRODUCE OR PRODUCES OR PRODUCTION OR FORM? ? OR FORMED OR FORMING OR FORMATION OR ASSEMBL? OR LINK??? OR COMBIN? OR JOIN???)
S6	70501	(LIBRARY OR LIBRARIES OR TABLE? ? OR DIRECTORY OR DIRECTORIES OR DATABASE? ? OR DATA()BASE? ? OR REPOSITOR???) (5N)(MODULE? ? OR OBJECT? ? OR FUNCTION? ? OR CLASS OR CLASSES OR APPL-ET? ? OR FILE? ? OR ALGORITHM? ? OR PROCEDURE? ? OR CODE OR PROGRAM? ?)
S7	77	S1 AND S5 AND S6
S8	39	S7 AND AC=US/PR AND AY=(1963:2003)/PR
S9	51	S7 AND AC=US AND AY=1963:2003
S10	51	S7 AND AC=US AND AY=(1963:2003)/PR
S11	63	S7 AND PY=1963:2003
S12	70	S8:S11
S13	70	IDPAT (sorted in duplicate/non-duplicate order)
S14	47	S2 AND S5 AND S6
S15	45	S3 AND S5 AND S6
S16	88	S14:S15
S17	78	S16 NOT S7
S18	17	S17 AND AC=US/PR AND AY=(1963:2003)/PR
S19	30	S17 AND AC=US AND AY=1963:2003
S20	30	S17 AND AC=US AND AY=(1963:2003)/PR
S21	66	S17 AND PY=1963:2003
S22	66	S18:S21

13/5/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0007479441 - Drawing available

WPI ACC NO: 1996-090647/

XRPX Acc No: N1996-075939

Process - control **support system for automatic design processor** - has database that performs module relation pattern of detail-design production, automatic program production, and data test of secondary memory which are simultaneously shown at output unit using cathode-ray tube

Patent Assignee: SHIROISHI Y (SHIR-I)

Inventor: AOYAMA S; SHIRAISHI Y

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 7302196	A	19951114	JP 1994113855	A	19940428	199610 B

Priority Applications (no., kind, date): JP 1994113855 A 19940428

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 7302196	A	JA	17	12	

Alerting Abstract JP A

The system has a secondary memory (7) that performs a detail-design document **production**, an automatic **program generation**, and a design **database** management which are simultaneously stored in a database (1) by using a central processing unit (13). The **database** obtains **module** relation pattern of the secondary memory which is shown to an output unit (22) using a cathode-ray tube (14).

ADVANTAGE - Reduces production time and mfg. cost by using data base that automatically performs detail-design **production**, **program generation**, and data test.

Title Terms/Index Terms/Additional words: PROCESS; CONTROL; SUPPORT; SYSTEM ; AUTOMATIC; DESIGN; PROCESSOR; DATABASE; PERFORMANCE; MODULE; RELATED; PATTERN; DETAIL; PRODUCE; PROGRAM; DATA; TEST; SECONDARY; MEMORY; SIMULTANEOUS; OUTPUT; UNIT; CATHODE; RAY; TUBE

Class Codes

International Classification (Main): G06F-009/06

(Additional/Secondary): G05B-019/05, G06F-011/28

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-F06; T01-J20C

13/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0014621505 - Drawing available

WPI ACC NO: 2004-803493/

XRPX Acc No: N2004-633353

Modular system used in vehicle assembling system, has execution engine to call machine automation procedure and to maintain information flow in and out of minor step modules

Patent Assignee: MEIKLE AUTOMATION INC (MEIK-N); MILLS D (MILL-I); WAGNER N (WAGN-I)

Inventor: MILLS D; WAGNER N

Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
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US 20040215355 A1 20041028 US 2003618800 A 20030714 200479 B
CA 2425719 A1 20041025 CA 2425719 A 20030425 200479 E

Priority Applications (no., kind, date): CA 2425719 A 20030425

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040215355	A1	EN	14	6	
CA 2425719	A1	EN			

Alerting Abstract US A1

NOVELTY - A **procedure creator** creates **machine automation procedure** from an **assembly** of minor step modules. The input product parameters and defined machine configuration are independent of the minor step modules. An execution engine calls the **machine automation procedure** and maintains the information flow in and out of the minor step modules.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- 1.modular method for programming machine automation controls ; and
- 2.storage medium storing machine automation control program.

USE - For programming **machine automation control** system used in industries such as vehicle **assembling** systems and fiber optic applications .

ADVANTAGE - Assembles same product on a different assembly machine. The development of automated system is simplified. Enables the **creation** of **procedure** , executable in a choice of modes including real time, real time with break points, simulation mode on stand alone computer. Allows process engineers in control of manufacturing rather than burdening them with software development, validation and testing. Product type manager eliminates requirement to change the process to reflect a part tolerance change.

DESCRIPTION OF DRAWINGS - The figure shows the flow diagram explaining the modular procedure for programming **machine automation control** .

Title Terms/Index Terms/Additional Words: MODULE; SYSTEM; VEHICLE; ASSEMBLE ; EXECUTE; ENGINE; CALL; MACHINE; AUTOMATIC; PROCEDURE; MAINTAIN; INFORMATION; FLOW; MINOR; STEP

Class Codes

International Classification (Main): G05B-013/02, G05B-019/042
(Additional/Secondary): G05B-015/00
US Classification, Issued: 700028000

File Segment: EPI;

DWPI Class: T01; T06

Manual Codes (EPI/S-X): T01-F06; T01-J07B; T01-S03; T06-A05

13/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0014309957 - Drawing available

WPI ACC NO: 2004-497094/

XRPX ACC No: N2004-392383

Programming and control system for process control of device e.g. solenoid, has dynamic link library called from action and decision blocks during run time, by external function module generating return values

Patent Assignee: ENTIVITY INC (ENTI-N)

Inventor: BEHM J; GASIOREK J; HARKAWAY T; MCFARLAND M; MURALIDHAR K; REID L ; STEENSTRA J

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6754540	B1	20040622	US 2000624449	A	20000724	200447 B

Priority Applications (no., kind, date): US 2000624449 A 20000724

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6754540	B1	EN	10	9	

Alerting Abstract US B1

NOVELTY - The system has a device e.g. solenoid, associated with a process e.g. machining. A flowcharting module **generates** and edits a source **code** with action and decision blocks which define logic for operating the device. A dynamic link library is called from the blocks during run time, by an external function module that receives input parameters and generates return values.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for programming and controlling a device associated with a process.

USE - Used for controlling processes e.g. machining, drilling, welding, spraying paint, mixing materials, assembling parts, handling material, that involve devices e.g. solenoid, motor, valve, switch and other electrical and electromechanical device.

ADVANTAGE - The external **functions** e.g. dynamic link **library**, are loaded during run time only when they are needed, as a result they do not consume system memory until they are used. The external functions provide an open architecture for the system and allow third parties to incorporate algorithms, complex math functions and other application-specific functions to the flowcharting module.

DESCRIPTION OF DRAWINGS - The drawing shows a flowchart that is created using the flowchart-based programming and control system.

Title Terms/Index Terms/Additional words: PROGRAM; CONTROL; SYSTEM; PROCESS; DEVICE; SOLENOID; DYNAMIC; LINK; LIBRARY; CALL; ACTION; DECIDE; BLOCK; RUN; TIME; EXTERNAL; FUNCTION; MODULE; GENERATE; RETURN; VALUE

Class Codes

International Classification (Main): G05B-011/01

US Classification, Issued: 700018000, 717140000, 717157000, 717106000, 700083000, 700086000

File Segment: EPI;

DWPI Class: T01; T06

Manual Codes (EPI/S-X): T01-J08A; T01-J12; T01-J20B; T06-A06A

13/5/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0014112029 - Drawing available

WPI ACC NO: 2004-296356/200428

XRPX ACC No: N2004-235363

Automated control software writing system for loading device-independent functionality for automation devices uses properties and functions of different automation systems and a runtime framework

Patent Assignee: SIEMENS AG (SIEI)

Inventor: HELLER R; JACHMANN T; PORTNER N

Patent Family (4 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
DE 10242916	A1	20040325	DE 10242916	A	20020916	200428 B
WO 2004027608	A2	20040401	WO 2003DE2753	A	20030818	200431 E
EP 1570346	A2	20050907	EP 2003797171	A	20030818	200559 E
			WO 2003DE2753	A	20030818	

US 20060142882 A1 20060629 WO 2003DE2753 A 20030818 200643 E
US 2005527914 A 20050316

Priority Applications (no., kind, date): DE 10242916 A 20020916

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
DE 10242916	A1	DE	7	2	
WO 2004027608	A2	DE			
National Designated States,Original: US					
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR					
GB GR HU IE IT LU MC NL PT RO SE SI SK TR					
EP 1570346	A2	DE			PCT Application WO 2003DE2753
Based on OPI patent WO 2004027608					
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR					
GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR					
US 20060142882	A1	EN			PCT Application WO 2003DE2753

Alerting Abstract DE A1

NOVELTY - Specific properties and functions of different automation systems (61...6n) on current devices are made to match an automation runtime layer (31-3n) directly by a system-specific adapter. A further component, i.e. a runtime framework (4), implemented on a current device makes general automation/basic functionality available.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1.A method for loading device-independent functionality for automation devices;
- 2.and for a programming language designed for automation for writing control software for a system and method for loading device-independent functionality for automation devices;
- 3.and for an automation device for masking specific functions and for loading basic functionality and/or automation functionality.

USE - For **automation software writing**, e.g. **program** compilers.

ADVANTAGE - An automation solution, correspondingly standardized and written on an engineering system (2), can be randomly transferred without depending on the different automation systems/target platforms. Use of uniform **object libraries** (7) and re-use of solutions written just once is possible without depending on the system.

DESCRIPTION OF DRAWINGS - The drawing shows a diagram of a standard framework for automation systems.

- 2 Engineering system
- 31...3n Automation runtime layer
- 4 Runtime framework
- 61...6n Different automation systems
- 7 Uniform **object library**
- 9 Data transfer device

Title Terms/Index Terms/Additional words: AUTOMATIC; CONTROL; SOFTWARE; WRITING; SYSTEM; LOAD; DEVICE; INDEPENDENT; FUNCTION; PROPERTIES; FRAMEWORK

Class Codes

International Classification (Main): G06F-009/44

International Classification (+ Attributes)

IPC + Level Value Position Status Version

G05B-0015/00	A	I	F	B	20060101
G05B-0019/042	A	I		R	20060101
G05B-0019/42	A	I	L	B	20060101
G06F-0009/44	A	I		R	20060101
G05B-0019/04	C	I		R	20060101
G06F-0009/44	C	I		R	20060101

US Classification, Issued: 700087000, 700083000, 700086000

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05A

13/5/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013918278 - Drawing available

WPI ACC NO: 2004-098038/

XRPX ACC No: N2004-078132

Supervisory process control application development facility for guiding lower level control component e.g. PLC, has configuration utility with interface to derive customized application object template from generic templates

Patent Assignee: WONDERWARE CORP (WOND-N)

Inventor: ERICKSON B; LEBLANC L G; MCINTYRE J P; MODY P H; RESNICK R M;
SOWELL T

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20030236576	A1	20031225	US 2002179763	A	20020624	200410 B

Priority Applications (no., kind, date): US 2002179763 A 20020624

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030236576	A1	EN	33	21	

Alerting Abstract US A1

NOVELTY - The facility has a library to store generic and previously defined application object templates, and a configuration utility to specify instances of previously defined templates to be included in an application. Application objects (105,107) are instantiated from the selected previously defined templates. The utility has an interface to derive a customized child application object template from the generic templates.

USE - Used in industrial **process control** network to provide guidance to lower level control components e.g. programmable logic controllers (PLCs).

ADVANTAGE - The configuration utility enables customers to efficiently and quickly design customized applications with respect to customers particular need and to implement the same.

DESCRIPTION OF DRAWINGS - The drawing shows a supervisory **process control** network with a multilayered supervisory **process control** and manufacturing information application.

105,107 Application objects

112,114 PLC1 and PLC2

120 Configuration personal computer

124 Configuration database

Title Terms/Index Terms/Additional words: SUPERVISION; PROCESS; CONTROL; APPLY; DEVELOP; FACILITY; GUIDE; LOWER; LEVEL; COMPONENT; PLC; CONFIGURATION; UTILISE; INTERFACE; DERIVATIVE; CUSTOMISATION; OBJECT; TEMPLATE

Class Codes

International Classification (Main): G05B-015/02

(Additional/Secondary): G05B-011/01, G05B-019/18, G05B-019/42, G06F-009/44

US Classification, Issued: 700009000, 700019000, 700018000, 700086000

File Segment: EPI;
DWPI Class: T01; T06
Manual Codes (EPI/S-X): T01-F05B2; T01-F06; T01-J07B1; T01-J20B; T06-A04B1;

T06-A07A

13/5/12 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013850226 - Drawing available

WPI ACC NO: 2004-028412/

XRPX ACC No: N2004-022679

Data processor design method, involves generating object program for data processor, using command selected for executing specific process in specification described in C language

Patent Assignee: PACIFIC DESIGN KK (PACI-N)

Inventor: FUJITA M; KITAJIMA T; SHIMOGOORI S; SUGIURA Y; YOSHIMURA M

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 2003337838	A	20031128	JP 200319160	A	20030128	200403 B

Priority Applications (no., kind, date): JP 200269433 A 20020314

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 2003337838	A	JA	20	8	

Alerting Abstract JP A

NOVELTY - A command (41) to execute a specific process in a specification (51) described in C language, is selected from a database (53), based on command-related evaluation data (43) in the **database**. An **object program** (57) for the data processor, is generated using the selected command.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1.compiler;
- 2.data processor design- automation program ; and
- 3.command database .

USE - For designing data processor.

ADVANTAGE - The suitable hardware information for designing the data processor, is easily and automatically obtained using the object program.

DESCRIPTION OF DRAWINGS - The figure shows a flow diagram explaining the data processor design process. (Drawing includes non-English language text).

- 41 command
- 43 command- related evaluation data
- 51 specification
- 53 database
- 57 object program

Title Terms/Index Terms/Additional words: DATA; PROCESSOR; DESIGN; METHOD; GENERATE; OBJECT; PROGRAM; COMMAND; SELECT; EXECUTE; SPECIFIC; PROCESS; SPECIFICATION; DESCRIBE; LANGUAGE

Class Codes

International Classification (Main): G06F-017/50

File Segment: EPI;

DWPI Class: T01; U11

Manual Codes (EPI/S-X): T01-J15; U11-G

13/5/13 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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0013658525 - Drawing available

WPI ACC NO: 2003-754707/ **200371**

Related WPI ACC No: 1999-214447; 2001-498085; 2001-615813; 2001-647910;
2001-662563; 2002-236176; 2002-518210; 2002-518240; 2002-617641;
2002-642320; 2003-017430; 2003-211143; 2003-299130; 2006-098360;
2006-511457; 2004-560305; 2006-527370

XRFX ACC No: N2003-604667

Programmable hardware configuration method for multimedia device control, involves utilizing hardware description of graphical program to configure hardware element in instrument

Patent Assignee: NAT INSTR CORP (NAIN-N)

Inventor: ANDRADE H; BUTLER C P; KODOSKY J L; MIHAL A; ODOM B K

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6608638	B1	20030819	US 2000499503	A	20000207	200371 B

Priority Applications (no., kind, date): US 2000499503 A 20000207

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6608638	B1	EN	71	39	

Alerting Abstract US B1

NOVELTY - A computer system in operated to estimate size and cost of one or more hardware implementation of a graphical program, and to display the estimation result to a user. A hardware description (304) of a portion of program, is utilized to configure programmable hardware element to perform measurement function of signal acquired from external source.

DESCRIPTION - An INDEPENDENT CLAIM is also included for storage medium storing programmable hardware configuring program.

USE - For configuring programmable hardware such as field programmable gate array (FPGA), complex programmable logic device (CPLD), analog-to-digital converter, digital-to-analog converter, timer, counter and clock used in industrial **automation applications** and other applications including control of multimedia device, video device, audio device, telephone and Internet device. Also for word processing, spreadsheet, network control and game applications.

ADVANTAGE - Allows the user to efficiently develop or define desired functionality using graphical programming techniques, while enabling the resulting program to operate directly in hardware.

DESCRIPTION OF DRAWINGS - The figure shows the flow diagram illustrating the conversion of graphical program into hardware description and the use of hardware description to program FPGA.

- 300 graphical program data structures
- 302 VDiagram tree
- 304 hardware description
- 340 FPGA-specific netlist
- 342 **library** of pre-compiled **function** blocks
- 344 hardware target specific information
- 346 FPGA program file
- 348 programmed FPGA

Title Terms/Index Terms/Additional words: PROGRAM; HARDWARE; CONFIGURATION; METHOD; DEVICE; CONTROL; UTILISE; DESCRIBE; GRAPHICAL; ELEMENT; INSTRUMENT

Class Codes

International Classification (+ Attributes)

IPC + Level Value Position Status Version

G09G-0005/00	A	I	R	20060101
G09G-0005/00	C	I	R	20060101

US Classification, Issued: 345771000, 703022000

File Segment: EngPI; EPI;

DWPI Class: T01; P85

Manual Codes (EPI/S-X): T01-F06; T01-J20B; T01-S03

13/5/14 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013494997 - Drawing available

WPI ACC NO: 2003-587428/ **200355**

Related WPI Acc No: 2002-362436

XRPX ACC No: N2003-467787

Object oriented framework for instantiating intelligent objects to process sensing and/or control information has hardware, an application database and a self-configuring application system receiving information from the database

Patent Assignee: LOCKHEED MARTIN CORP (LOCK)

Inventor: MATHUR C; RAPP J W

Patent Family (5 patents, 101 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2003062934	A1	20030731	WO 2003US950	A	20030113	200355 B
AU 2003209217	A1	20030902	AU 2003209217	A	20030113	200422 E
EP 1468339	A1	20041020	EP 2003707365	A	20030113	200469 E
			WO 2003US950	A	20030113	
KR 2004095208	A	20041112	KR 2004711187	A	20040719	200519 E
JP 2005516276	W	20050602	JP 2003562731	A	20030113	200541 E
			WO 2003US950	A	20030113	

Priority Applications (no., kind, date): US 200252744 A 20020118

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
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WO 2003062934	A1	EN	53	12	
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National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Regional Designated States,Original: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW

AU 2003209217	A1	EN		Based on OPI patent	WO 2003062934
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EP 1468339	A1	EN		PCT Application	WO 2003US950
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Based on OPI patent WO 2003062934

Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI

FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

JP 2005516276	W	JA	32	PCT Application	WO 2003US950
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Based on OPI patent WO 2003062934

Alerting Abstract WO A1

NOVELTY - The hardware sub-system carries control and sensing signals and the application database stores application service configuration information corresponding to ways of processing the control and/or sensing signals. The self-configuring application services system has a configuration module coupled to the hardware sub-system and to the database to retrieve the configuration information. An **Object Database Management System** (800) stores signal and/or service objects and associations between these objects and sensing and/or control service objects may be specified in the signal and/or application database. The associations process information within corresponding event messages.

DESCRIPTION - An INDEPENDENT CLAIM is included for a method of processing electrical signals by receiving application service configuration

information associating a set of software objects with an electrical signal, retrieving the software objects, retrieving interface configuration information associating a second set of software objects with the signal and automatically generating a hardware interface for managing communications between the software objects and the hardware in accordance with the configuration information.

USE - In flight and other simulators, manufacturing automation, **industrial control**, oil refinery and other process monitoring and remote sensing systems.

ADVANTAGE - Provides a system for rapidly designing and implementing a sensing and/or control system which maximizes system extensibility and scalability.

DESCRIPTION OF DRAWINGS - Figure 5 is a block drawing of an object oriented framework architecture.

800 Object Database Management System

Title Terms/Index Terms/Additional Words: OBJECT; ORIENT; FRAMEWORK; INTELLIGENCE; PROCESS; SENSE; CONTROL; INFORMATION; HARDWARE; APPLY; DATABASE; SELF; SYSTEM; RECEIVE

Class Codes

International Classification (Main): G05B-019/042, G06F-009/44
(Additional/Secondary): G06F-009/445

File Segment: EPI;

DWPI Class: T01; W05

Manual Codes (EPI/S-X): T01-F05B2; T01-J05B4C; T01-J05B4M; W05-D07

13/5/19 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013244058 - Drawing available

WPI ACC NO: 2003-329229/ **200331**

XRPX Acc No: N2003-263365

Automatic program generator for steel industry, generates source code of each application program, and corrects program specification based on input application program information

Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ)

Inventor: NAMITO M

Patent Family (2 patents, 2 countries)

Patent				Application			
Number	Kind	Date	Number	Kind	Date	Update	
US 20020199168	A1	20021226	US 200113452	A	20011213	200331	B
JP 2003005966	A	20030110	JP 2001191235	A	20010625	200331	E

Priority Applications (no., kind, date): JP 2001191235 A 20010625

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing	Notes
US 20020199168	A1	EN	12	6		
JP 2003005966	A	JA	10			

Alerting Abstract US A1

NOVELTY - A program format input unit (42) inputs **application program** information of a **production process control** computer, in the form of table. A **generation unit** (45) **generates source code** of each **application program**, and the **program specification** stored in a **database** is corrected based on the input information.

USE - For production process of steel industry.

ADVANTAGE - High quality **application program** can be **generated** automatically independent of personal ability of designer or model of **process control** computer, and the design content can be described

correctly by the standard specification.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the automatic **program generator**.

42 program format input unit

45 generation unit

Title Terms/Index Terms/Additional words: AUTOMATIC; PROGRAM; GENERATOR; STEEL; INDUSTRIAL; GENERATE; SOURCE; CODE; APPLY; CORRECT; SPECIFICATION; BASED; INPUT; INFORMATION

Class Codes

International Classification (Main): G06F-009/44

US Classification, Issued: 717107000

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-J07B; T01-J20B; T01-S03

13/5/20 (Item 20 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013068233 - Drawing available

WPI ACC NO: 2003-148232/

XRAM ACC No: C2003-038203

XRPX ACC No: N2003-117149

Source code creation apparatus for plant processing facilities, generates final version of source code portion to be inserted into program source code, using interactive help application

Patent Assignee: DIETRICH K W (DIET-I); FOX G L (FOXG-I); JAMES D M (JAME-I)

Inventor: DIETRICH K W; FOX G L; JAMES D M

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20020178434	A1	20021128	US 2001791010	A	20010222	200314 B

Priority Applications (no., kind, date): US 2001791010 A 20010222

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20020178434	A1	EN	43	3	

Alerting Abstract US A1

NOVELTY - A **database** receives data comprising **program** variables and data types input from an external data source. An interactive help application coupled to the database utilizes the input data to **form program source code** variables. A **source code generator** coupled to the **database** **generates** a final version of the source code portion that is then inserted into the **program source code** based on the **generated** variables.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. source code portion creation ; and

2.a process control system.

USE - Used for **process control** systems in manufacture plants, chemical plants, crude oil refineries and ore processing plants.

ADVANTAGE - The **apparatus** provides an easy and efficient way to create and maintain **applications** that access process data in a **process control** system and provides users with the ability to easily and efficiently update and modify all previously generated source codes without affecting any user **written** user **code**.

DESCRIPTION OF DRAWINGS - The figure shows the automated source code

generation in process control environment.

Title Terms/Index Terms/Additional Words: SOURCE; CODE; CREATION; APPARATUS
; PLANT; PROCESS; FACILITY; GENERATE; FINAL; VERSION; PORTION; INSERT;
PROGRAM; INTERACT; HELP; APPLY

Class Codes

International Classification (Main): G06F-009/44
US Classification, Issued: 717106000

File Segment: CPI; EPI
DWPI Class: H05; T01; T06
Manual Codes (EPI/S-X): T01-F05; T06-A04B
Manual Codes (CPI/A-M): H05-J

13/5/21 (Item 21 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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0013015594 - Drawing available
WPI ACC NO: 2003-094040/
Related WPI Acc No: 2003-094035; 2003-094038; 2003-094052; 2003-094053;
2003-094061; 2003-094075; 2003-140845
XRPX ACC No: N2003-074480

**Template-based supervisory process control and manufacturing
information application development facility has code rendering utility
generating primitive components**

Patent Assignee: WONDERWARE CORP (WOND-N)
Inventor: ERICKSON B; LEBLANC L G; MCINTYRE J P; MODY P H; RESNICK R M;
SOWELL T

Patent Family (2 patents, 20 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2003001343	A2	20030103	WO 2002US20191	A	20020624	200308 B
EP 1410204	A2	20040421	EP 2002746694	A	20020624	200427 E
			WO 2002US20191	A	20020624	

Priority Applications (no., kind, date): US 2001300157 P 20010622; US
2001300363 P 20010622

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2003001343	A2	EN	60	21	
National Designated States,Original: DE					
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE					
IT LU MC NL PT SE TR					
EP 1410204	A2	EN			PCT Application WO 2002US20191
Based on OPI patent WO 2003001343					
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE					
IT LI LU MC NL PT SE TR					

Alerting Abstract WO A2

NOVELTY - Template-based supervisory **process control** and
manufacturing information application development facility comprises an
application **object template library** (AOTL) storing a set of previously
defined application object templates and a configuration utility specifying
instances of the set to be included in an application. The AOTL comprises a
set of generic application templates and the configuration utility has an
object template customisation interface for deriving a customised child
application object template from them. There is a toolkit for **developing**
new **application** templates and importing them into the library.

USE - Template-based supervisory **process control** and manufacturing
information application development facility is for e.g. programmable logic
controllers in a **process control** network.

ADVANTAGE - Facility enhances design productivity and enables re-use of
previously **developed application building blocks**.

DESCRIPTION OF DRAWINGS - The figure shows a supervisory **process control** network including a multilayered supervisory **process control** and manufacturing information application.

Title Terms/Index Terms/Additional words: TEMPLATE; BASED; SUPERVISION; PROCESS; CONTROL; MANUFACTURE; INFORMATION; APPLY; DEVELOP; FACILITY; CODE; RENDER; UTILISE; GENERATE; PRIMITIVE; COMPONENT

Class Codes

International Classification (Main): G06F, G06F-009/54

File Segment: EPI;

DWPI Class: T01; T06

Manual Codes (EPI/S-X): T01-J07B1; T01-J20B1; T06-A04B1; T06-A04B7; T06-A07A; T06-A08

13/5/22 (Item 22 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013011771 - Drawing available

WPI ACC NO: 2003-090043/ **200308**

Related WPI Acc No: 2003-353969; 2003-380566

XRPX ACC No: N2003-071069

Development tool for manufacturing equipment controlling computer, generates control program by matching program fragments from library with phases of operation of respective equipment model

Patent Assignee: ROCKWELL SOFTWARE INC (ROCK-N)

Inventor: HAVNER R A; RYAN S D; TOMAN J F; WHITEHEAD C J; YUEN K P

Patent Family (1 patents, 1 countries)

Patent		Application				Update	
Number	Kind	Date	Number	Kind	Date		
US 6477435	B1	20021105	US 1999404771	A	19990924	200308	B

Priority Applications (no., kind, date): US 1999404771 A 19990924

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6477435	B1	EN	10	8	

Alerting Abstract US B1

NOVELTY - The tool has a program integration wizard which receives an area-model of a physical equipment to be controlled and phases of operation of the equipment, and a **library** with **program** fragments. The integration wizard **generates** a control **program** by matching the program fragments with the phases of operation so as to denote the control variables of all program fragments based on the hierarchy of the area-model.

DESCRIPTION - An INDEPENDENT CLAIM is included for a method of **creating control programs**.

USE - Development unit for **generating control programs** in special purpose computers for controlling processes of manufacturing equipment.

ADVANTAGE - Simplifies renaming of variables while preserving fundamental identity of the original control variables. The logical and automatic renaming of the variables of program fragments are unique within the context of the control program.

DESCRIPTION OF DRAWINGS - The figure shows a flowchart illustrating the operation of the program integration wizard.

Title Terms/Index Terms/Additional words: DEVELOP; TOOL; MANUFACTURE; EQUIPMENT; CONTROL; COMPUTER; GENERATE; PROGRAM; MATCH; FRAGMENT; LIBRARY; PHASE; OPERATE; RESPECTIVE; MODEL

Class Codes

International Classification (Main): G05B-019/42

US Classification, Issued: 700086000, 700182000

File Segment: EPI;

DWPI Class: T01; T06

Manual Codes (EPI/S-X): T01-J07B; T06-A04B5; T06-A07A; T06-A07B

13/5/23 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0012979554 - Drawing available

WPI ACC NO: 2003-057022/ 200305

XRPX ACC No: N2003-044099

Industrial control system has computer memory which stores instancing table that matches equipment types with relay ladder objects stored in controller memory

Patent Assignee: REPETE CORP (REPE-N)

Inventor: STINE D L

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6466827	B1	20021015	US 1999121148	P	19990222	200305 B
			US 2000507058	A	20000221	

Priority Applications (no., kind, date): US 1999121148 P 19990222; US 2000507058 A 20000221

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6466827	B1	EN	10	9	Related to Provisional US 1999121148

Alerting Abstract US B1

NOVELTY - A programmable logic controller (PLC) has a memory (54) for storing relay ladder objects (66) having rungs joining contacts and output coils to provide intra-machine control relating operation of sensors and actuators of an interconnected equipment. A computer memory stores an instancing table that matches the equipment types with the ladder objects, and program for logically coordinating operation of different interconnected equipments.

DESCRIPTION - An INDEPENDENT CLAIM is included for interconnect industrial equipment operation control method.

USE - Control system.

ADVANTAGE - The PLC efficiently improves the reliability of the computer to provide completely scalable control system. The relay ladder objects determine the correct fault state for the device and make the necessary level control signals to the device under fault condition.

DESCRIPTION OF DRAWINGS - The figure shows an expanded functional block diagram of the programmable logic controllers.

54 Memory

66 Relay ladder objects

Title Terms/Index Terms/Additional Words: INDUSTRIAL; CONTROL; SYSTEM; COMPUTER; MEMORY; STORAGE; TABLE; MATCH; EQUIPMENT; TYPE; RELAY; LADDER; OBJECT

Class Codes

International Classification (Main): G05B-019/42

(Additional/Secondary): G05B-011/01

US Classification, Issued: 700018000, 700086000, 700103000

File Segment: EPI;

DWPI Class: T01; T06; U21

Manual Codes (EPI/S-X): T01-E02C; T06-A04B1; T06-A06A; U21-C01E

13/5/27 (Item 27 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0012314580 - Drawing available

WPI ACC NO: 2002-256126/

XRPX Acc No: N2002-198123

Programming demonstration by automation using library of program widgets

Patent Assignee: BENSON D C (BENS-I); MCDANIEL R G (MCDA-I); SCHILLER F D (SCHI-I); SCHOFIELD S M (SCHO-I); SIEMENS TECHNOLOGY TO BUSINESS CENT LLC (SIEI)

Inventor: BENSON D C; MCDANIEL R G; SCHILLER F D; SCHOFIELD S M

Patent Family (4 patents, 93 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2001067192	A2	20010913	WO 2001US7305	A	20010305	200230 B
AU 200149108	A	20010917	AU 200149108	A	20010305	200230 E
EP 1290509	A2	20030312	EP 2001922291	A	20010305	200320 E
			WO 2001US7305	A	20010305	
US 20040267515	A1	20041230	US 2000186969	P	20000306	200503 E
			US 2001809155	A	20010305	

Priority Applications (no., kind, date): US 2001809155 A 20010305; US 2000186969 P 20000306; US 2001186969 A 20010305

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2001067192	A2	EN	40	10	
National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
Regional Designated States,Original: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
AU 200149108	A	EN			Based on OPI patent WO 2001067192
EP 1290509	A2	EN			PCT Application WO 2001US7305
					Based on OPI patent WO 2001067192
Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
US 20040267515	A1	EN			Related to Provisional US 2000186969

Alerting Abstract WO A2

NOVELTY - A computer programming method involves providing a programming by demonstration tool on a first computer platform used as both a control program and a visual user interface for the control program. The programming by demonstration tool includes a **library of program widgets**, a graphical editor capable of enabling manipulation by a user of a graphical representation of any of the program widgets and an interfacing engine for recording and processing the manipulation operations to **produce** an executable **code**. An input/output module is provided interfacing with the programming by demonstration tool for coupling the program widgets to external input and output signals of the automation process.

USE - For operating and monitoring automation processes and equipment.

ADVANTAGE - Participation of manpower of multiple specialists is not required.

DESCRIPTION OF DRAWINGS - Drawing shows overall system architecture block diagram.

- 3 widget library
- 5 Inference engine
- 7 External I/O
- 9 Code compiler.

Title Terms/Index Terms/Additional words: PROGRAM; DEMONSTRATE; AUTOMATIC; LIBRARY

Class Codes

International Classification (Main): G05B-019/042, G06F-009/45
(Additional/Secondary): G05B-019/05
US Classification, Issued: 703022000

File Segment: EPI;

DWPI Class: T06

Manual Codes (EPI/S-X): T06-A04B1; T06-A07A; T06-A08

13/5/33 (Item 33 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0010899614 - Drawing available

WPI ACC NO: 2001-520336/

XRPX Acc No: N2001-385314

Industrial control system employs general purpose computer that performs execution of specific program module in the order of call table for predictable real time control

Patent Assignee: ROCKWELL TECHNOLOGIES LLC (ROCW)

Inventor: BUVEL R L; CHANDLER S K; IZZO J P; SEARING L G; SHELVIK N S

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6272388	B1	20010807	US 1998163106	A	19980929	200157 B

Priority Applications (no., kind, date): US 1998163106 A 19980929

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6272388	B1	EN	7	5	

Alerting Abstract US B1

NOVELTY - A general purpose computer executes program including sequentially executed program module and periodically executed program modules (36,38,40). Periodically executed program modules with terminating instruction (42), are repeatedly executed in order of call table (44) for predictable real time control. Terminating jump instruction (48) at end of call instructions cause repeated execution of table (44).

DESCRIPTION - An INDEPENDENT CLAIM is also included for sequentially executing real time program development method.

USE - For controlling industrial processes or manufacturing equipments.

ADVANTAGE - The call table provides a single and centralized way of enabling or disabling modules of operating system. The program structure allows repeated execution of program modules for predictable real time control. Simplifies development of modules due to the elimination of need for multiple flags by the use of a call table structure.

DESCRIPTION OF DRAWINGS - The figure shows the schematic representation of the operating system.

36,38,40Program modules

42Terminating instruction

44Call table

48Terminating jump instruction

Title Terms/Index Terms/Additional words: INDUSTRIAL; CONTROL; SYSTEM; EMPLOY; GENERAL; PURPOSE; COMPUTER; PERFORMANCE; EXECUTE; SPECIFIC; PROGRAM; MODULE; ORDER; CALL; TABLE; PREDICT; REAL; TIME

Class Codes

International Classification (Main): G05B-019/42

US Classification, Issued: 700086000, 700023000, 700108000, 712241000

File Segment: EPI;

DWPI Class: T06
Manual Codes (EPI/S-X): T06-A04B5

13/5/39 (Item 39 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009612293 - Drawing available
WPI ACC NO: 1999-562229/ 199947
XRPX ACC No: N1999-415364

Object oriented method of structuring software step program

Patent Assignee: ACUITY IMAGING LLC (ACUI-N)

Inventor: DZIEZANOWSKI J; LIMONDIN S

Patent Family (7 patents, 80 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1999048000	A1	19990923	WO 1998US16062	A	19980728	199947	B
AU 199886832	A	19991011	AU 199886832	A	19980728	200008	E
EP 1070289	A1	20010124	EP 1998938265	A	19980728	200107	E
			WO 1998US16062	A	19980728		
US 6226783	B1	20010501	US 199839653	A	19980316	200126	E
KR 2001041944	A	20010525	KR 2000710257	A	20000916	200168	E
AU 759260	B	20030410	AU 199886832	A	19980728	200337	E
JP 2004515826	W	20040527	WO 1998US16062	A	19980728	200435	E
			JP 2000537133	A	19980728		

Priority Applications (no., kind, date): US 199839653 A 19980316

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
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WO 1999048000	A1	EN	37	9	
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National Designated States,Original: AL AM AT AU AZ BA BB BG BR BY CA CH
CN CU CZ DE DK EE ES FI GB GE GH GM HU ID IL IS JP KE KG KP KR KZ LC LK
LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT UA UG UZ VN YU ZW

Regional Designated States,Original: AT BE CH CY DE DK EA ES FI FR GB GH
GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

AU 199886832	A	EN		Based on OPI patent	WO 1999048000
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EP 1070289	A1	EN		PCT Application	WO 1998US16062
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Based on OPI patent WO 1999048000

Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE
IT LI LU MC NL PT SE

AU 759260	B	EN		Previously issued patent	AU 9886832
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JP 2004515826	W	JA	59		
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Based on OPI patent WO 1999048000

PCT Application WO 1998US16062

Based on OPI patent WO 1999048000

Alerting Abstract WO A1

NOVELTY - The method involves defining several individual steps including set of program objects, input accepted by the steps, operations performed by the steps and output **generated** by the steps. Every step **program** object included in the program is named. The step program objects are then organized into a hierarchical tree structure.

USE - For real time control of various manufacturing and **process control** applications.

ADVANTAGE - Simple vision applications can be very easily set up, while ensuring that complex applications can also be readily configured. Provides way to extend the programs by providing drop in functionality in the **form** of language independent **software** components. Enables running the machine vision computer programs unchanged on different CPU architectures.

DESCRIPTION OF DRAWINGS - The figure shows the object oriented inheritance hierarchy that supports step execution and data flow models.

Title Terms/Index Terms/Additional words: OBJECT; ORIENT; METHOD; STRUCTURE

; SOFTWARE; STEP; PROGRAM

Class Codes

International Classification (Main): G06F-009/44, G06F-009/445, G06F-009/45
US Classification, Issued: 717001000, 717002000

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-F01B; T01-F05A; T01-F05B

13/5/43 (Item 43 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0009501188 - Drawing available

WPI ACC NO: 1999-443737/199937

XRFX ACC No: N1999-330957

Application computer program creation method for automation and processing control in electronic technologies

Patent Assignee: CENCIK P (CENC-I)

Inventor: CENCIK P

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5933638	A	19990803	US 1996628134	A	19960404	199937 B

Priority Applications (no., kind, date): US 1996628134 A 19960404

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5933638	A	EN	28	17	

Alerting Abstract US A

NOVELTY - The properties for each object and cell included in the object evaluation matrix are defined by the use of choices of preset object and cell properties, respectively. The visual choices in a list format is presented to the human user, which determines a corresponding value for each of the object and cell properties.

DESCRIPTION - Atleast one object is placed into the appropriate cells by the use of visual choices presented to a human user. The human user determines a corresponding value for each of the object and cell properties. The object properties include atleast one of a numeric value, pointer, variable name and string. The object having a function which occurs external computer system for controlling a process. An INDEPENDENT CLAIM is also included for a **process control** programming environment.

USE - For **creation of application computer program** using object evaluation matrix in electronic technologies used in manufacture of integral elements such as programmable logic controllers, robot, machine vision, personal computer, computer numerical control machines and other computer controller machines used in fields of robotics, factory automation vision guidance, motion control, paint mixing etc.

ADVANTAGE - Provides product that allows user to **create process control applications** without the limitations of having to use root-oriented tree-like logical structures, **generating new software code to create** desired **links** and evaluation logic, or using certain databases with preset fields and certain control logic. Allows user to **create process control** applications incorporating the desirable features of object oriented programming, worksheets and scanning similar to those used in programmable logic controllers without requiring the utilization of databases.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart depicting the logical operations required for executing application program.

Title Terms/Index Terms/Additional words: APPLY; COMPUTER; PROGRAM;

CREATION; METHOD; AUTOMATIC; PROCESS; CONTROL; ELECTRONIC

Class Codes

International Classification (Main): G06F-009/44

(Additional/Secondary): G06F-017/00

US Classification, Issued: 395704000, 395500000, 395672000, 707504000

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-F05; T01-J

13/5/44 (Item 44 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0009500239 - Drawing available

WPI ACC NO: 1999-442732/

Related WPI Acc No: 2002-556360

XRPX Acc No: N1999-330050

Industrial controller for factory automation control

Patent Assignee: ALLEN BRADLEY CO LLC (ALLB)

Inventor: FLOOD M A

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5912814	A	19990615	US 1997852710	A	19970507	199937 B

Priority Applications (no., kind, date): US 1997852710 A 19970507

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5912814	A	EN	10	9	

Alerting Abstract US A

NOVELTY - An electronic memory (52) has user program describing control of process. A primary input-output data table (40a) holding output values of controlled processes. A processor executes the user program to write output values to input-output data table. At the end of the program, output values in table are transmitted to input-output data table (40b) of secondary controller.

DESCRIPTION - Only after completion of transfer to secondary controller, output values from input-output data table are transmitted for controlled process after transferring data from input-output table (40a) to the input-output data table (40b).

USE - For Factory automation control.

ADVANTAGE - Improper updation controlled process is avoided by ensuring that data is fully secured by secondary controller. Time fragmentation of data at secondary controller is reduced by using input-output data tables.

DESCRIPTION OF DRAWINGS - The figure shows simplified diagram of primary and secondary controller showing sequence of data flow.

40a,40b Input-output data tables

52 Electronic memory

Title Terms/Index Terms/Additional Words: INDUSTRIAL; CONTROL; FACTORY; AUTOMATIC

Class Codes

International Classification (Main): G05B-011/01

(Additional/Secondary): G01R-031/28, G06F-007/00, G11C-029/00

US Classification, Issued: 364131000, 364146000, 371011000, 395575000, 395600000

File Segment: EPI;

DWPI Class: T01; T06

Manual Codes (EPI/S-X): T01-E; T06-A06A

13/5/68 (Item 68 from file: 347)

DIALOG(R)File 347:JAPIO

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01573403 **Image available**

GENERATING METHOD OF PROCESS CONTROL PROGRAM

PUB. NO.: 60-051903 [JP 60051903 A]

PUBLISHED: March 23, 1985 (**19850323**)

INVENTOR(S): NISHIYAMA TAKANOBU

APPLICANT(S): MITSUBISHI ELECTRIC CORP [000601] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 58-160637 [JP 83160637]

FILED: August 30, 1983 (19830830)

INTL CLASS: [4] G05B-019/02; G06F-009/06

JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)

JOURNAL: Section: P, Section No. 375, Vol. 09, No. 177, Pg. 118, July 23, 1985 (19850723)

ABSTRACT

PURPOSE: To simplify a **generating** work of an OR operating **program** by arranging an address of a main memory in which an input signal is stored, in order of the input signal, generating a source memory address table, etc., and storing them in the main memory.

CONSTITUTION: A source memory address table 31 is generated by arranging in order input signals I1-I10 of an OR circuit, an output bit memory address table 32 is generated by arranging 01 corresponding to I1, 02 corresponding to I2,-, etc., a sub-output bit memory address table 33 is generated by arranging S01 corresponding to 01, S02 corresponding to 02,-, and the address of each table is stored as an address table 30 in a main memory. An OR operating application program for executing a logical operation by using this **table** is stored as a **program** memory in the main memory, and an OR operation is executed.

22/5/6 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO
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05373369 **Image available**
OBJECT GENERATION DEVICE FOR PLC PROGRAM

PUB. NO.: 08-328869 [JP 8328869 A]
PUBLISHED: December 13, 1996 (19961213)
INVENTOR(s): MURANAKA KATSUMI
APPLICANT(s): FUJI ELECTRIC CO LTD [000523] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-131682 [JP 95131682]
FILED: May 30, 1995 (19950530)
INTL CLASS: [6] G06F-009/45; G05B-019/05; G06F-009/06
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);
22.3 (MACHINERY -- Control & Regulation)

ABSTRACT

PURPOSE: To shorten the time needed for generation of the object data by omitting the unnecessary scan of the source data, the unnecessary conversion of a TAG definition table and the unnecessary compiling processing of the source data.

CONSTITUTION: When the compiling processing is instructed, the source data 31b and 31d having their time stamps discordant with that of a TAG definition table 32 are scanned and the automatic TAG registration processing is carried out. When no coincidence of time stamps is secured between the table 32 and an intermediate file 33, the table 32 is converted into the file 33. Then the data 31b and 31d having the time stamps discordant with those of the object data 34b and 34d are compiled based on the file 33. The time stamps of other source files 31a to 31c, the table 32, the file 33 and the object files 34a to 34d are replaced, so that they are coincident with the time stamp of the latest source data 31d.

22/5/10 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO
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02752505 **Image available**
PROGRAM GENERATING DEVICE FOR PLANT MONITORING CONTROLLER

PUB. NO.: 01-050105 [JP 1050105 A]
PUBLISHED: February 27, 1989 (19890227)
INVENTOR(s): KAWAGUCHI KOICHI
SATO TETSUO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 62-207062 [JP 87207062]
FILED: August 20, 1987 (19870820)
INTL CLASS: [4] G05B-015/02; G05B-023/02; G06F-009/06
JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 24.1 (CHEMICAL ENGINEERING -- Fluid Transportation); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 882, Vol. 13, No. 250, Pg. 164, June 12, 1989 (19890612)

ABSTRACT

PURPOSE: To drastically reduce the input operation, and to remarkably simplify the generating work by displaying a desired plant block diagram on a picture plane at the time of generation, and designating directly a control object such as a control valve and a pump, etc., by a pointing device on the picture plane.

CONSTITUTION: The titled device is switched to a **program generation** mode by a keyboard 8, and also, No. of a desired plant block diagram and No. of a command list table are designated. As a result, the designated plant block diagram, the command list **table** and a **program generating table** are divided and displayed on display areas 31-33, respectively, of a display device 3. Subsequently, in case it is desired to start a pump, when START of a start command is designated from a touch panel 12, the command START is displayed on the area 33, and also, stored in a control **program generating table** 11. In this case, a display color on the figure of a startable apparatus, for instance, the pump, a blower, etc., is changed. Therefore, when the pump is designated, an actual pump name appears in the area 33. Thereafter, by repeating the same procedure, for instance, a sequence **program** is **generated**.

22/5/14 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013329443 - Drawing available

WPI ACC NO: 2003-416820/ **200339**

Related WPI Acc No: 2003-267237; 2003-330556; 2003-353495; 2003-362109; 2004-267739; 2004-592021; 2006-108092; 2006-470129

XRPX ACC No: N2003-332272

Machine tool data capturing method e.g. for CNC tool, involves compiling predefined program code to machine tool library and linking compiled program code to machine tool base code

Patent Assignee: DIRNFELDNER R (DIRN-I); GREFF S (GREF-I); KAEVER M (KAEV-I); KREIDLER V (KREI-I); LAGIES K (LAGI-I); MUTSCHELLER W (MUTS-I); SIEMENS AG (SIEI)

Inventor: DIRNFELDNER R; GREFF S; KAEVER M; KREIDLER V; LAGIES K; MUTSCHELLER W

Patent Family (4 patents, 26 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030014498	A1	20030116	US 2001305199	P	20010713	200339	B
			US 2001950848	A	20010912		
WO 2003007092	A2	20030123	WO 2002EP7513	A	20020705	200339	E
EP 1410120	A2	20040421	EP 2002754841	A	20020705	200427	E
			WO 2002EP7513	A	20020705		
CN 1527961	A	20040908	CN 2002814109	A	20020705	200478	E

Priority Applications (no., kind, date): US 2001305199 P 20010713; US 2001950848 A 20010912

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030014498	A1	EN	40	23	Related to Provisional US 2001305199
WO 2003007092	A2	EN			
National Designated States,Original: CN					
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR					
EP 1410120	A2	EN			PCT Application WO 2002EP7513
Based on OPI patent WO 2003007092					
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR					

Alerting Abstract US A1

NOVELTY - An access to a program code received over a network such as internet is provided by a CNC machine tool, by compiling the **program code** to the machine tool **library** and **linking** the compiled **program code** to the machine tool base code. Based on the accessed program code, machine tool data is collected from the controller.

USE - For capturing CNC/ PLC machine tool data.

ADVANTAGE - By compiling the predefined **program code** to machine tool **library**, the machine tool data can be effectively captured in real-time. Thereby, the customers are enabled to shorten development times, deliver maximum product quality and to establish market presence more quickly at favorable costs.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining the machine tool data capturing process.

Title Terms/Index Terms/Additional Words: MACHINE; TOOL; DATA; CAPTURE; METHOD; CNC; COMPILE; PREDEFINED; PROGRAM; CODE; LIBRARY; LINK; BASE

Class Codes

International Classification (+ Attributes)

IPC + Level Value Position Status Version

G05B-0019/00	A	I	R	20060101
G05B-0019/4063	A	I	R	20060101
G05B-0019/408	A	I	R	20060101
G05B-0023/02	A	I	R	20060101
G06F-0015/16	A	I	R	20060101
G05B-0019/00	C	I	R	20060101
G05B-0019/406	C	I	R	20060101
G05B-0019/408	C	I	R	20060101
G05B-0023/02	C	I	R	20060101
G06F-0015/16	C	I	R	20060101

US Classification, Issued: 709217000

File Segment: EPI;

DWPI Class: T01; T06; W05; X25

Manual Codes (EPI/S-X): T01-J07B; T06-A04A2; T06-A04A4; T06-A07A; T06-A11; T06-D06; W05-D06E; W05-D07B; W05-D08C; X25-A03; X25-A03F

22/5/35 (Item 24 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0010725010

WPI ACC NO: 2001-336575/ **200136**

XRFX ACC No: N2001-242971

Control program for a computer numerical control (CNC) machine tool has a modular widely applicable software structure

Patent Assignee: HEIDENHAIN GMBH JOHANNES (HEIJ)

Inventor: RUTKOWSKI C

Patent Family (5 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 19949558	A1	20010419	DE 19949558	A	19991014	200136	B
WO 2001027703	A2	20010419	WO 2000EP10042	A	20001012	200136	E
EP 1224512	A2	20020724	EP 2000972743	A	20001012	200256	E
			WO 2000EP10042	A	20001012		
JP 2003511779	W	20030325	WO 2000EP10042	A	20001012	200330	E
			JP 2001530654	A	20001012		
US 6999841	B1	20060214	WO 2000EP10042	A	20001012	200613	E
			US 2003110587	A	20030306		

Priority Applications (no., kind, date): DE 19949558 A 19991014

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
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DE 19949558	A1	DE	7	1	
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WO 2001027703	A2	DE			
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National Designated States,Original: JP US

Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE

IT LU MC NL PT SE

EP 1224512	A2	DE			
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PCT Application WO 2000EP10042

Based on OPI patent WO 2001027703

Regional Designated States, Original: AL AT BE CH CY DE DK ES FI FR GB GR
 IE IT LI LT LU LV MC MK NL PT RO SE SI
 JP 2003511779 W JA 23 PCT Application WO 2000EP10042
 Based on OPI patent WO 2001027703
 US 6999841 B1 EN PCT Application WO 2000EP10042
 Based on OPI patent WO 2001027703

Alerting Abstract DE A1

NOVELTY - The flexibility of CNC controlled machine tools is provided by a control program organized on a modular base. The software has different framework classes, such as man machine interface, geometry processing, interpolation. The modules are formed in an object oriented form with links to communication channels.

USE - Machine tool control.

ADVANTAGE - Software with more than one use.

Title Terms/Index Terms/Additional words: CONTROL; PROGRAM; COMPUTER; NUMERIC; CNC; MACHINE; TOOL; MODULE; WIDE; APPLY; SOFTWARE; STRUCTURE

Class Codes

International Classification (Main): G05B-019/408, G05B-019/4093

International Classification (+ Attributes)

IPC + Level Value Position Status Version

G06F-0019/00 A I F B 20060101

US Classification, Issued: 700181000, 700182000, 700162000

File Segment: EPI;

DWPI Class: T06

Manual Codes (EPI/S-X): T06-A04A4

22/5/44 (Item 33 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0009289529 - Drawing available

WPI ACC NO: 1999-219546/ 199919

XRPX ACC No: N1999-162384

Control data processing method using BASIC interpreter for programmable logic controllers (PLC) - involves developing control program using arbitrary language on PC, executing it using BASIC interpreter by writing declaration statement for linking control program with BASIC interpreter

Patent Assignee: OMRON KK (OMRO)

Inventor: BRIAN G; OTANI S; TIM V

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 11053198	A	19990226	JP 1997210384	A	19970805	199919	B
JP 3674936	B2	20050727	JP 1997210384	A	19970805	200549	E

Priority Applications (no., kind, date): JP 1997210384 A 19970805

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 11053198	A	JA	9	11	
JP 3674936	B2	JA	13		Previously issued patent JP 11053198

Alerting Abstract JP A

NOVELTY - A control program developed in an arbitrary language on a PC (200) is loaded on the processor (10). A declaration statement showing the link relationship with control program is written in BASIC by a BASIC interpreter and the loaded control program is executed. Transfer of data between BASIC interpreter and library program is performed using

stack memory area in the system. DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the control data processing apparatus.

USE - For **programmable logic controller (PLC)** using personal computer utilizing BASIC interpreter.

ADVANTAGE - Enables usage of widely used BASIC interpreter for control process. Avoids machine dependency and thereby offers easier and simpler development process of control programs. Avoids necessity of monitor function for debugging. DESCRIPTION OF DRAWING(S) - The diagram shows the block diagram of a PLC system using the data processing method. (10) Processor; (200) PC.

Title Terms/Index Terms/Additional words: CONTROL; DATA; PROCESS; METHOD; BASIC; INTERPRETATION; PROGRAM; LOGIC; **PLC** ; DEVELOP; ARBITRARY; LANGUAGE; EXECUTE; WRITING; STATEMENT; LINK

Class Codes

International Classification (Main): G06F-009/45

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-F05A

22/5/50 (Item 39 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0007878620 - Drawing available

WPI ACC NO: 1996-510156/

XRPX ACC No: N1996-430026

Control-program prodn. appts. for control program of factory line - has several program components generated by program generator based on contents of line and event description tables to perform processing corresp. to each constructor of factory line

Patent Assignee: SUMITOMO METAL IND LTD (SUMQ)

Inventor: HORI A

Patent Family (1 patents, 1 countries)

Patent		Application				Update	
Number	Kind	Date	Number	Kind	Date		
JP 8263278	A	19961011	JP 199567660	A	19950327	199651	B

Priority Applications (no., kind, date): JP 199567660 A 19950327

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 8263278	A	JA	9	13	

Alerting Abstract JP A

The appts. has a line description table (117) to which the user inputs the settings such as length of line and order of zone. The user performs processing based on the event data included in an event-description **table** (119). A **program** generator (111) **generates** a **program** component from a **class library** based on the contents of the line and event description tables.

The program components are connected to perform processing corresp. to each constructor of the factory line. The connected **program** components produces the **control program** of the **factory line**.

ADVANTAGE - Shortens work-hours since operator does operation without need of knowing detailed specification of **program** component. Improves efficiency of **program production** due to shortened work-hours. **Produces** efficient **program** counter since event data can be processed. Improves efficiency of work prodn. since line data expressed as object figure can be edited.

Title Terms/Index Terms/Additional words: CONTROL; PROGRAM; PRODUCE;

APPARATUS; FACTORY; LINE; COMPONENT; GENERATE; GENERATOR; BASED; CONTENT;
EVENT; DESCRIBE; TABLE; PERFORMANCE; PROCESS; CORRESPOND; CONSTRUCTION

Class Codes

International Classification (Main): G06F-009/06
(Additional/Secondary): G05B-015/02

File Segment: EPI;

DWPI Class: T01; T06

Manual Codes (EPI/S-X): T01-F06; T01-F07; T01-J20A; T06-A07

22/5/57 (Item 46 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0006537717 - Drawing available

WPI ACC NO: 1993-347267/

XRPX ACC No: N1993-268286

Information managing appts. for factory or office automation - includes application program interface for operating with software kit interface and to provide coordination with application kits with no modification of memory

Patent Assignee: NISSAN MOTOR CO LTD (NSMO)

Inventor: ABE K; KOYANAGI H; NISHIYAMA T; NODA T; NOMARU M; YAMAZAKI T

Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
GB 2266982	A	19931117	GB 199310002	A	19930514	199344 B
US 5404530	A	19950404	US 199360122	A	19930512	199519 E

Priority Applications (no., kind, date): JP 1992123424 A 19920515; JP 1992123423 A 19920515; JP 1992123422 A 19920515

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
GB 2266982	A	EN	52	19	
US 5404530	A	EN	26	19	

Alerting Abstract GB A

The information managing apparatus has memories for storing application software kits (1,2) including no decision process and no data storage process. The application kits are each defined only by an elementary execution routine. A software kit interface (3) is provided by constructing the kits independently of hardware and operating system. The software kit interface includes a **library of functions** for storing and processing a flow of the constructed kits.

The apparatus also includes a BASE section (4) for integrally managing temporary storage and processing of information shared by the application kits, an operating system interface (5) for supplying a function group to operate the kits and the BASE section while completely separating the kits from the hardware and the operating system, and an application program interface (6) for operating with the software kit interface (3) and an existing application program (10) to provide co-ordination with the kits with no modification of a stored working sequence operable only with a specified operating system.

ADVANTAGE - For operating computer terminals and working robot. Provides multivendor environment where user can prepare programs, independent of operating computer used with computer.

Equivalent Alerting Abstract US A

The system has storage storing numerous application kits, each of which is defined by an execution element routine having an input register segment for registering input data, a processing segment and an output register segment for registering output data. The processing segment processes the

input data to produce the output data. An input inputs a selected kind of data selected from various kinds of data. A detection circuit detects the kind of the input data.

A software kit interface selects a group of application kits from the numerous application kits. The input register segments of the selected group of application kits are coupled in parallel and the output register segments of the selected group of application kits are coupled in parallel. This is based on the detected kind of the input data. An output outputs the output data from the software kit interface.

ADVANTAGE - Gives operating system independent multivendor environment. Allows user to construct automation system.

Title Terms/Index Terms/Additional words: INFORMATION; MANAGE; APPARATUS; FACTORY; OFFICE; AUTOMATIC; APPLY; PROGRAM; INTERFACE; OPERATE; SOFTWARE; KIT; COORDINATE; NO; MODIFIED; MEMORY

Class Codes

International Classification (Main): G06F-013/00, G06F-009/44
US Classification, Issued: 395700000, 364DIG

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-F05; T01-J05A

22/5/61 (Item 50 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0005936403 - Drawing available

WPI ACC NO: 1992-167337/ 199220

XRPX ACC No: N1992-124874

Object-oriented architecture for development of software systems - comprises interface server with application service, data base service, relational data base and communication manager

Patent Assignee: CONSILIUM INC (CONS-N)

Inventor: HESS R L; LOZIER B A; MASHRUWALA R; MASHRUWALA R U; TANTRY S; TANTRY S B

Patent Family (8 patents, 44 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1992007331	A1	19920430	WO 1991US7671	A	19911015	199220	B
AU 199190303	A	19920520	AU 199190303	A	19911015	199233	E
			WO 1991US7671	A	19911015		
EP 553285	A1	19930804	EP 1991920578	A	19911015	199331	E
			WO 1991US7671	A	19911015		
US 5398336	A	19950314	US 1990598078	A	19901016	199516	E
			US 199393307	A	19930716		
EP 553285	A4	19931110	EP 1991920067	A	19911017	199528	E
US 5548756	A	19960820	US 1990598078	A	19901016	199639	E
			US 199393307	A	19930716		
			US 1995401633	A	19950309		
EP 553285	B1	20000301	EP 1991920578	A	19911015	200016	E
			WO 1991US7671	A	19911015		
DE 69132012	E	20000406	DE 69132012	A	19911015	200024	E
			EP 1991920578	A	19911015		
			WO 1991US7671	A	19911015		

Priority Applications (no., kind, date): US 1995401633 A 19950309; US 199393307 A 19930716; US 1990598078 A 19901016

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing	Notes
WO 1992007331	A1	EN	52	10		

National Designated States, Original: AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL NO PL RO SD SE SU

Regional Designated States,Original: AT BE BF BJ CF CG CH CI CM DE DK ES
FR GA GB GN GR IT LU ML MR NL SE SN TD TG
AU 199190303 A EN PCT Application WO 1991US7671
Based on OPI patent WO 1992007331
EP 553285 A1 EN 2 1 PCT Application WO 1991US7671
Based on OPI patent WO 1992007331
Regional Designated States,Original: DE FR
US 5398336 A EN 20 10 Continuation of application US
1990598078
EP 553285 A4 EN
US 5548756 A EN 19 10 Continuation of application US
1990598078
Continuation of application US
199393307
Continuation of patent US 5398336
EP 553285 B1 EN PCT Application WO 1991US7671
Based on OPI patent WO 1992007331
Regional Designated States,Original: DE FR
DE 69132012 E DE Application EP 1991920578
PCT Application WO 1991US7671
Based on OPI patent EP 553285
Based on OPI patent WO 1992007331

Alerting Abstract WO A1

The system includes an interface server for allowing user interaction events and for producing application service requests. The application service processes the requests and retrieves, manipulates and updates data from relational database.

The database service provides access to the relational database following response from application service requests. A communication manager coordinates interprocess communication between application engine, application service and database service.

USE/ADVANTAGE - For factory floor management of e.g. multi-engine aircraft or VLSI microprocessor mfg. capable of tracking, monitoring and **controlling** all aspects of **factory** environment. Produces savings in terms of performance.

Equivalent Alerting Abstract US A

The object-oriented architecture has factory floor entities modelled as factory **objects** within a relational **database**. The architecture includes x-terminal or bar code devices for facilitating user interaction with the system via one or more of the factory floor entities; Application Engines for processing user interaction of events and **generating application** service requests; and **Application** servers for processing the **application** service requests and **generating** database service requests in response. These database service requests are utilized to retrieve, manipulate and update data stored within the relational database. Communication Managers are employed for coordinating interprocess communication between the Application Engines, the Application Servers, and the Database Servers. Each of these major components are distributed among computer resources that are networked across the factory floor.

Title Terms/Index Terms/Additional Words: OBJECT; ORIENT; ARCHITECTURE; DEVELOP; SOFTWARE; SYSTEM; COMPRISE; INTERFACE; SERVE; APPLY; SERVICE; DATA; BASE; RELATED; COMMUNICATE; MANAGE

16/5/3 (Item 3 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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09005758 E.I. No: EIP02066856561

Title: A methodology for specification and development of control code in industrial DCS application

Author: Atlagic, Branislav; Mihic, Velibor; Maruna, Tomislav
Corporate Source: Faculty of Technical Sciences, 21000 Novi Sad, Yugoslavia

Conference Title: 14th International Conference on Systems Science

Conference Location: Wroclaw, Poland Conference Date: 20010911-20010914

E.I. Conference No.: 58991

Source: Proceedings of the International Conference on Systems Science v 2 2001. p 77-84

Publication Year: 2001

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 0202w3

Abstract: The paper describes application software development methodology developed for a PC based control system. It is oriented to complex industrial applications demanding distributed architecture and extensive batch control. A solution is found in the fieldbus connection to the field devices on the factory floor and a specific application software organization and development environment. This is an attempt to combine advantages of widely accepted PLC standards (IEC 61131-3 and ISA S-88) with the modern programming approach brought by the information technologies. Application code development process is facilitated by a special programming tool that integrates SFC graphical editor, C code generator and a specific code editor with the process database browser. The basis for the software design is a process configuration model that is on a substantially higher level, compared to the traditional PLC - based solutions. Resulting program code is simple, reliable, readable and easy to maintain. Open PC platform and windows NT/2000 operating system ensures easy integration of the control system to the enterprise information system. 5 Refs.

Descriptors: *Distributed parameter control systems; Process control; Industrial plants; Management information systems; Software engineering; Programmable logic controllers; Open systems

Identifiers: Application software development; Batch control; Application code design

Classification Codes:

731.1 (Control Systems); 731.2 (Control System Applications); 402.1 (Industrial & Agricultural Buildings); 723.2 (Data Processing); 723.1 (Computer Programming); 732.1 (Control Equipment)

731 (Automatic Control Principles & Applications); 402 (Buildings & Towers); 723 (Computer Software, Data Handling & Applications); 732 (Control Devices)

73 (CONTROL ENGINEERING); 40 (CIVIL ENGINEERING, GENERAL); 72 (COMPUTERS & DATA PROCESSING)

16/5/6 (Item 6 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

(c) 2006 Elsevier Eng. Info. Inc. All rts. reserv.

07697095 E.I. No: EIP97053656482

Title: Environment for object-oriented real-time systems design

Author: Van de Weg, R.; Engmann, R.; van de Hoef, R.; ten Thij, V.

Corporate Source: Univ of Twente, Enschede, Neth

Conference Title: Proceedings of the 1997 8th Conference on Software Engineering Environments, SEE 97

Conference Location: Cottbus, Ger Conference Date: 19970408-19970409

E.I. Conference No.: 46336

Source: Proceedings of the Conference on Software Engineering

Environments 1997. IEEE, Los Alamitos, CA, USA. p 23-33

Publication Year: 1997

CODEN: PSEEF0

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T
; (Theoretical)

Journal Announcement: 9707W2

Abstract: A concise object-oriented method for the development of real-time systems has been composed. Hardware components are modelled by (software) base objects; base objects are controlled by a hierarchy of coordinator objects, expressed in an organizational diagram. The behaviour of objects is specified by state transition diagrams. This approach considerably promotes requirements analysis and communication with the customer. A CASE tool has been constructed with diagram editors for graphical specifications of real-time systems. The tool can **generate** executable **code** for **PLCs** from these graphical specifications; reuse of previous results is supported by the **repository function** of the tool. Experiences attained in practice with method and tool show that time spent in system testing and installation is reduced considerably. (Author abstract) 16 Refs.

Descriptors: *Object oriented programming; Real time systems; Computer aided logic design; Computer hardware; Computer simulation; Computer aided software engineering; Computer graphics

Identifiers: Computer environment

Classification Codes:

723.1 (Computer Programming); 722.4 (Digital Computers & Systems);
723.5 (Computer Applications)
723 (Computer Software); 722 (Computer Hardware)
72 (COMPUTERS & DATA PROCESSING)

16/5/7 (Item 7 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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07578492 E.I. No: EIP96123470938

Title: Software aspects of PLCs application in robotic workcells

Author: Boczkaj, Boleslaw F.

Conference Title: Conference Record of the 1996 IEEE Industry Applications 31th IAS Annual Meeting. Part 3 (of 4)

Conference Location: San Diego, CA, USA Conference Date: 19961006-19961010

Sponsor: IEEE

E.I. Conference No.: 45752

Source: Conference Record - IAS Annual Meeting (IEEE Industry Applications Society) v 3 1996. IEEE, Piscataway, NJ, USA, 96CH35977. p 1575-1581

Publication Year: 1996

CODEN: CIASDZ ISSN: 0197-2618

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); X
; (Experimental)

Journal Announcement: 9702W1

Abstract: The subject of control system design is usually approached from two distinct perspectives: development of general principles such as mathematically or experimentally derived theory and case studies which describe instances of specific applications in practice. This paper fills the gap between the two approaches for a particular topic, application of **PLCs** to robotic workcells. Specifically, the subject of interest is organization of **PLC** program. Robotic workcells are custom build. Despite that, it is possible to discern common physical features and operating characteristics among robotic workcells. As a good design practice, these common traits are used, on an individual device or axis of motion basis, to generate typical portion of code. Similarly, on equipment, workcell or global level, typical organization of **code** is **developed** with

standardized **program** format, order and naming conventions. A **library** of **code** segments can be **developed** for specific sensors, actuators, axis of motion arrangements, robot and workcell configurations. This library can then be used for mix and match software development without sacrificing flexibility to customize or refine programs. Since the structure of code is standardized and known ahead, the benefits of this approach extend beyond the code development stage to the program debugging and the life of product maintenance and repair troubleshooting of equipment. (Author abstract) 47 Refs.

Descriptors: *Industrial robots; **Programmable logic controllers**; Computer software; Program debugging; Sensors; Actuators; Manipulators; End effectors; Grippers

Identifiers: Industrialized personal computer; Dedicated robot controller; Robotic workcells

Classification Codes:

731.6 (Robot Applications); 732.1 (Control Equipment); 723.5 (Computer Applications); 723.1 (Computer Programming); 732.2 (Control Instrumentation); 731.5 (Robotics)

731 (Automatic Control Principles); 732 (Control Devices); 723 (Computer Software)

73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

16/5/9 (Item 9 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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07541434 E.I. No: EIP96100382601

Title: Implementing reusable, instrument independent test programs in the factory

Author: Neblett, Bill

Corporate Source: Texas Instruments Inc, Lewisville, TX, USA

Conference Title: Proceedings of the AUTOTESTCON'96 Conference

Conference Location: Dayton, OH, USA Conference Date: 19960916-19960919

Sponsor: IEEE

E.I. Conference No.: 45491

Source: AUTOTESTCON (Proceedings) 1996., 96CH35955. p 206-212

Publication Year: 1996

CODEN: AUPRDX

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); G; (General Review)

Journal Announcement: 9612W4

Abstract: Development of computer programs that control test sequences on Automatic Test Equipment (ATE) is costly and time consuming. Test Programs are usually written by specifying the instruments to be used in the ATE and the sequence of the setup and measurement parameters for these Instruments. Reuse of test program software on other ATE is usually not possible without rewriting, revalidating and re-releasing the programs. This paper describes an implementation of a test program software development system and a standard software runtime architecture used in our factories. The object oriented development environment and its associated **class libraries** allow test **programs** to be **written** without knowledge of the ATE on which they will be run. Two main principles guided the design: the software architecture was based on recognized formal and industry standards, and our implementation used commercial off-the-shelf software products when possible. Emerging standards such as the IEEE-1226 (ABBET) as well as de facto industry standards including VXI Plug and Play have made our implementation possible. The current draft of the ABBET and P&P standards do not promote this instrument independence, but it is hoped that this will be added as the standards mature. Three immediate benefits are: cost savings that result from reusing validated test programs, cycle time reductions that result from concurrently developing test program software and ATE, and software defect reductions that result from using proven software. (Author abstract) 10 Refs.

Descriptors: ***Factory automation ; Automatic testing**; Computer software; Computer architecture; Object oriented programming; Standards
Identifiers: Automatic test equipment (ATE); Test programs
Classification Codes:
913.4.2 (Computer Aided Manufacturing)
913.4 (Manufacturing); 723.1 (Computer Programming); 902.2 (Codes & Standards)
913 (Production Planning & Control); 723 (Computer Software); 722 (Computer Hardware); 902 (Engineering Graphics & Standards)
91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING); 90 (GENERAL ENGINEERING)

16/5/10 (Item 10 from file: 8)

DIALOG(R)File 8:EI Compendex(R)
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07495407 E.I. No: EIP96093331995

Title: Integration of automated process planning system with CAM software

Author: Sormaz, Dusan N.; Khoshnevis, Behrokh; Han, Junghyun

Corporate Source: Ohio Univ, Athens, OH, USA

Conference Title: Proceedings of the 1996 24th NAMRC Conference

Conference Location: Ann Arbor, MI, USA Conference Date: 19960521-19960523

E.I. Conference No.: 45295

Source: Technical Paper - Society of Manufacturing Engineers. MS 1996. 6p

Publication Year: 1996

CODEN: TPSSDL ISSN: 0161-6382

Language: English

Document Type: UP; (Unpublished Preprint) Treatment: G; (General Review)

Journal Announcement: 9611w1

Abstract: This paper describes the results of a research project that was devoted to the integration of an automated process planning system with a CAM. The project consisted of two main parts: feature recognition and process planning. An approach based on inter-process communication has been adopted for feature recognition. For process planning the **object**-oriented **database** of the CAM system has been used and the **algorithm** has been **built** within the CAM system. Several issues that arise in manufacturing software integration have been addressed. These issues include: how to provide a geometric model for process planning, how to build an interface between modules (e.g., feature interface), how to implement manufacturing knowledge within an object database, and how to generate and maintain alternative process plans. This paper reports on our experience with these issues and provides some guidelines for addressing the associated problems. (Author abstract) 12 Refs.

Descriptors: ***Process control ; Computer aided manufacturing; Factory automation ; Feature extraction**; Object oriented programming; Database systems; Computer software; Algorithms

Identifiers: Computer aided process planning

Classification Codes:

913.4.2 (Computer Aided Manufacturing)

913.4 (Manufacturing); 723.5 (Computer Applications); 723.4 (Artificial Intelligence)

731 (Automatic Control Principles); 913 (Production Planning & Control)

; 723 (Computer Software)

73 (CONTROL ENGINEERING); 91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING)

16/5/13 (Item 13 from file: 8)

DIALOG(R)File 8:EI Compendex(R)
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07075717 E.I. No: EIP95022575833

Title: Integrating information with PC-based DAC software

Author: Gerold, Jane Stoffel

Source: Control Engineering v 41 n 3 Mar 1994. p 99-102

Publication Year: 1994

CODEN: CENGAX ISSN: 0010-8049

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications)

Journal Announcement: 9504w4

Abstract: Tools such as DDE, OLE, DLL and ODBC are making it easier for data acquisition and control (DAC) software to integrate real-time data acquired on the plant floor into the business-wide management system. DDE, or dynamic data exchange, is a standard that allows different windows programs to share information automatically in the background. With DDE, data from DAC systems can now be easily imported into business management software such as spreadsheets and databases. OLE, or object linking and embedding, allows objects to be embedded from one application into another. OLE and distributed objects will overcome the limitations currently posed by diverse programs and platforms used in DAC environments. ODBC, or open/**object database** connectivity provides the ability to connect various database **software** products. DLLs, or dynamic **link** libraries, are clever implementations that allow very large programs to run without causing memory crunch. Some DAC software packages are described.

Descriptors: *Computer control; Personal computers; Computer software; Control facilities; Data acquisition; Object oriented programming; Database systems; Management information systems; **Factory automation**; Graphical user interfaces

Identifiers: Data acquisition and control; Boardroom; Dynamic data exchange; Dynamic link library; Object management group

Classification Codes:

723.5 (Computer Applications); 722.4 (Digital Computers & Systems); 723.1 (Computer Programming); 731.1 (Control Systems); 723.2 (Data Processing); 723.3 (Database Systems)

723 (Computer Software); 722 (Computer Hardware); 731 (Automatic Control Principles)

72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

16/5/18 (Item 18 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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05819885 E.I. Monthly No: EIM8911-039883

Title: Languages and tools for the graphical and textual system independent programming of programmable logic controllers.

Author: Halang, Wolfgang A.

Corporate Source: Univ of Groningen, Groningen, Neth

Conference Title: Fifteenth EUROMICRO Symposium on Microprocessing and Microprogramming - (EUROMICRO 89)

Conference Location: Cologne, West Ger. Conference Date: 19890904

E.I. Conference No.: 12577

Source: Microprocessing and Microprogramming v 27 n 1-5 Aug 1989. p 583-590

Publication Year: 1989

CODEN: MMICDT ISSN: 0165-6074

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 8911

Abstract: Presently, only vendor specific low-level textual and graphical languages are available for the programming of **programmable logic controllers** (PLC). In order to improve this situation, the International Electrotechnical Commission (IEC) is undertaking a standardisation effort defining four compatible languages, which may be transformed into one another. Two of them are textual and the other two are graphical. We introduce these languages with emphasis on the two high-level ones,

represented by a Pascal-like structured textual and a graphical block diagram language. The latter is mainly suitable to express software modularisation, tasking, and control sequences in a form similar to Petri-nets. A number of CAE tools are described supporting the realisation of PLC application projects. They are based on the IEC standard's two high-level languages and provide an environment for graphical and textual programming, **module library** administration, documentation, and **application program generation**. (Edited **author** abstract) 6 Refs.

Descriptors: *COMPUTER PROGRAMMING--*Control; LOGIC DEVICES; COMPUTER PROGRAMMING LANGUAGES; COMPUTER GRAPHICS

Identifiers: **PROGRAMMABLE LOGIC CONTROLLERS**; GRAPHICAL LANGUAGES; INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC); PETRI-NETS; HIGH-LEVEL LANGUAGES; TEXTUAL PROGRAMMING

Classification Codes:

723 (Computer Software); 721 (Computer Circuits & Logic Elements); 722 (Computer Hardware)

72 (COMPUTERS & DATA PROCESSING)

16/5/34 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

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06226108 INSPEC Abstract Number: C9605-7420D-003

Title: Application of object-oriented techniques to the design and operation of factories

Author(s): Wheeler, G.C.W.S.

Author Affiliation: British Maritime Technol. Ltd., UK

Conference Title: IEE Colloquium on Intelligent Manufacturing Systems (Digest No. 1995/238) p.3/1-6

Publisher: IEE, London, UK

Publication Date: 1995 Country of Publication: UK 48 pp.

Material Identity Number: XX96-00556

Conference Title: IEE Colloquium on Intelligent Manufacturing Systems (Digest No. 1995/238)

Conference Sponsor: IEE

Conference Date: 12 Dec. 1995 Conference Location: London, UK

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Heracles is a system for applying the object-oriented techniques of modern software production to the construction of modern automated (i.e. "robot") factories. In programming, an object consists of data and the actions defined on it: in HERACLES, an object is a hardware component (e.g a grabber), data, and a software template defining the methods implemented on that object. A CAD system and a **software** design environment are used to **create** the **objects**, which are stored in a **library**. **Objects** are used by the **code generator**, simulation, monitoring, and diagnostics systems. Traditional design methods have no integration of any of these components. HERACLES also allows class information to be re-used in future projects. (7 Refs)

Subfile: C

Descriptors: control system CAD; industrial control; industrial robots; object-oriented programming; software libraries

Identifiers: object-oriented techniques; Heracles; software production; modern **automated factory** construction; robot; hardware component; software template; CAD system; software design environment

Class Codes: C7420D (Control system design and analysis); C3355 (Control applications in manufacturing processes); C6110J (Object-oriented programming); C3390 (Robotics)

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16/5/40 (Item 11 from file: 2)

DIALOG(R)File 2:INSPEC

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05130224 INSPEC Abstract Number: C9205-7480-063

Title: Generation of assembly programs with database and sensor support

Author(s): Seliger, G.; Heinemeier, H.-J.; Neu, S.
Journal: ZWF Zeitschrift für Wirtschaftliche Fertigung und Automatisierung vol.87, no.2 p.104-7

Publication Date: Feb. 1992 **Country of Publication:** West Germany

CODEN: ZZWAEM **ISSN:** 0932-0482

Language: German **Document Type:** Journal Paper (JP)

Treatment: Practical (P)

Abstract: The generation of robot programs for the automated assembly can be supported with planning information from databases. Robot coordinates created by off-line programming cannot be applied without online adaptation according to the accuracy requirements. Manual teaching is tedious and time consuming. Vision systems enable the determination of the real position and orientation of equipment, and thus the automated adaptation of assembly programs. (4 Refs)

Subfile: C

Descriptors: assembling; computer vision; database management systems; **factory automation**; robot programming

Identifiers: robot programming; computer vision; **factory automation**; industrial robots; program generation; automated assembly

Class Codes: C7480 (Production engineering); C6160 (Database management systems (DBMS)); C5260B (Computer vision and picture processing); C6110 (Systems analysis and programming)

16/5/49 (Item 20 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

04022156 INSPEC Abstract Number: C88004668

Title: Distributed intelligence in process control

Author(s): Berry, D.

Journal: Control Engineering vol.34, no.5 p.62-4

Publication Date: May 1987 **Country of Publication:** USA

CODEN: CENGAX **ISSN:** 0010-8049

Language: English **Document Type:** Journal Paper (JP)

Treatment: Practical (P)

Abstract: Foxboro Company has announced the Intelligent Automation Series, a system of hardware, software, applications, and services designed for distributed intelligence in industrial process control. The product line is offered as a control, information, and measurement systems package, that features open communication architecture, environmentally hardened hardware, hardware independent software, and online reconfiguration. A distributed global database allows each function with the manufacturing organization to develop an applications window of pertinent information for plant management and control. (0 Refs)

Subfile: C

Descriptors: distributed control; process computer control

Identifiers: I/A series; Foxboro Company; Intelligent Automation Series; distributed intelligence; industrial process control; information; measurement systems package; open communication architecture; environmentally hardened hardware; hardware independent software; online reconfiguration; distributed global database; plant management

Class Codes: C3350 (Industrial production systems); C7420 (Control engineering)

16/5/56 (Item 27 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

03126025 INSPEC Abstract Number: C83039517, D83000951

Title: Advanced System Pac : the best of two software worlds

Author(s): Hudson, D.H.

Journal: Interface Age vol.8, no.8 p.123-7

Publication Date: Aug. 1983 Country of Publication: USA

CODEN: INFAD5 ISSN: 0147-2992

Language: English Document Type: Journal Paper (JP)

Treatment: Applications (A); Practical (P)

Abstract: Data Basic (Mt. Pleasant, MI, USA) has introduced a new package that will utilise more power from computers. This software is a cross between a **database** management system and a **code generator**. It runs on most CP/M machines, including the Apple II (with CP/M card), DEC, Lynk, Novell, IBM (with CP/M), TeleVideo-802, TRS-80, Victor 9000, Xerox 820 and Zenith. This multi-function package can be of value to both the curious novice and the demanding programmer. The software starts with SystemPac (\$395), a file handler designed for the first-time user. The next set up is Advanced SystemPac (\$695). (0 Refs)

Subfile: C D

Descriptors: database management systems

Identifiers: Advanced System **Pac**; database management system; code generator; CP/M machines; Apple II; DEC; Lynk; Novell; IBM; TeleVideo-802; TRS-80; Victor 9000; Xerox 820; Zenith; programmer

Class Codes: C6160 (Database management systems (DBMS)); C7100 (Business and administration); D5010 (Computers and work stations)

16/5/71 (Item 12 from file: 6)

DIALOG(R)File 6:NTIS

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1262803 NTIS Accession Number: DE86012744

GPIB88: A Function Library for the IBM Personal Computer to Support DeSmet C Application Programs for the National Instruments PC2 IEEE-488 Controller

Lundgaard, N. ; McGirt, F.

Los Alamos National Lab., NM.

Corp. Source Codes: 072735000; 9512470

Sponsor: Department of Energy, Washington, DC.

Report No.: LA-10735-MS

May 86 13p

Languages: English

Journal Announcement: GRAI8624; NSA1100

Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NTIS Prices: PC A02/MF A01

Country of Publication: United States

Contract No.: W-7405-ENG-36

The GPIB88 function library for the IBM PC family is a high-level language interface to the National Instruments IEEE-488 PC2 interface board that uses National Instruments handler Rev. B.2. This **library** supports **application programs written** in DeSmet C. Such support functions for DeSmet C are not available from National Instruments. 2 refs. (ERA citation 11:042408)

Descriptors: *Equipment Interfaces; *Personal Computers; *IBM Computers; Computer Codes; Libraries; Programming

Identifiers: ERDA/990200; Software libraries; NTISDE

Section Headings: 62B (Computers, Control, and Information Theory--Computer Software)

16/5/79 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

(C) 2006 The Thomson Corp. All rts. reserv.

03457417 Genuine Article#: PG592 Number of References: 20

Title: ON PAC LEARNABILITY OF FUNCTIONAL-DEPENDENCIES

Author(s): AKUTSU T; TAKASU A

Corporate Source: GUNMA UNIV,DEPT ONCOL,1-5-1 TENJIN/KIRYU/GUNMA 376/JAPAN/
; NATL CTR SCI INFORMAT SYST,BUNKYO KU/TOKYO 112//JAPAN/

Journal: NEW GENERATION COMPUTING, 1994, V12, N4, P359-374

ISSN: 0288-3635

Language: ENGLISH Document Type: ARTICLE

Geographic Location: JAPAN

Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology &
Applied Sciences

Journal Subject Category: COMPUTER SCIENCE, HARDWARE & ARCHITECTURE;
COMPUTER SCIENCE, THEORY & METHODS

Abstract: This paper proposes a kind of probably approximately correct (PAC) learning framework for inferring a set of functional dependencies (FDs) from example tuples. A simple algorithm is considered that outputs a set of all FDs which hold in a set of example tuples. Let r be a relation (a set of tuples). We define the error for a set of FDs FS as the minimum $SIGMA(t \text{ is-an-element-of } \nu \mid P(t))$; where ν (ν subset-of r) is a set such that FS holds in $r - \nu$, and $P(t)$ denotes the probability that tuple t is picked from r . Our attention is focused on the sample complexity, and we show that the number of example tuples required to infer a set of FDs whose error does not exceed ϵ with probability at least $1 - \delta$ under an arbitrary probability distribution is

$O((\sqrt{\ln(1/\delta)/\epsilon})\sqrt{|r|})$.

Descriptors--Author Keywords: PAC LEARNING ; COMPUTATIONAL LEARNING
THEORY ; FUNCTIONAL DEPENDENCY ; RELATIONAL DATABASE ; BIRTHDAY PARADOX

Research Fronts: 92-0070 002 (OBJECT -ORIENTED DATABASE MODEL;

SOFTWARE MAINTENANCE PRODUCTIVITY; SEMANTIC VIEW)

92-0398 001 (AUTOMATIC ADAPTIVE REFINEMENT FINITE-ELEMENT PROCEDURE ;
ERROR ESTIMATORS; MESH GENERATION ; DYNAMIC ALGORITHMS IN
COMPUTATIONAL GEOMETRY)

21/5/3 (Item 3 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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08080793 E.I. No: EIP98084328732

Title: Open architecture modular tool kit for motion and machining process control

Author: Altintas, Y.; Ero1, N.A.

Corporate Source: Univ of British Columbia, Vancouver, BC, Can

Source: CIRP Annals - Manufacturing Technology v 47 n 1 1998. p 295-300

Publication Year: 1998

CODEN: CIRAAT ISSN: 0007-8506

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9809W5

Abstract: An open and reconfigurable **modular** tool kit is presented for the design of CNC systems for machine tools and machining process monitoring. By selecting standard commands from the software tool kit library, the user is able to design a new CNC system automatically. The developed system allows **integration** of user **developed program modules** to the tool kit **library**. The developed CNC is based on a fully **integrated**, open, real-time, preemptive DSP operating system and a windows NT application. It has hardware independent architecture, and supports multiple DSP boards and multiple host computers for machine tool and robot drive motion control, trajectory generation and sensor based machining **process control** and monitoring applications. The system can be quickly configured to control different machine tools, robots and sensor based processes by selecting standard script commands from the design library. The paper contains sample applications for machine tool control and sensor assisted machining applications. (Author abstract) 9 Refs.

Descriptors: *Computer control; Numerical control systems; Computer systems programming; Machining; Computer aided software engineering; Real time systems; Computer operating systems; Sensors; Mobile robots; Computer architecture

Identifiers: Software package Windows; Robot drive motion control

Classification Codes:

723.5 (Computer Applications); 731.5 (Robotics); 731.1 (Control Systems); 723.1 (Computer Programming); 604.2 (Machining Operations); 722.4 (Digital Computers & Systems)

723 (Computer Software); 731 (Automatic Control Principles); 604 (Metal Cutting & Machining); 722 (Computer Hardware)

72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING); 60 (MECHANICAL ENGINEERING)

21/5/4 (Item 4 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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07264868 E.I. No: EIP95102884161

Title: Flexible control system for robot assembly automation

Author: Fu, Li-Chen; Jann, Larry

Corporate Source: Natl Taiwan Univ, Taipei, Taiwan

Conference Title: Proceedings of the IEEE International Symposium on Assembly and Task Planning

Conference Location: Pittsburgh, PA, USA Conference Date: 19950810-19950811

Sponsor: IEEE

E.I. Conference No.: 43723

Source: Proceedings of the IEEE International Symposium on Assembly and Task Planning 1995., 95TB8123. p 286-291

Publication Year: 1995

CODEN: 002162 ISSN: 02561

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9512W1

Abstract: In this paper, we propose an object-oriented model for a control system architecture of robotic assembly automation and extend this model to all event driven automation system. Based on this model, we **develop** a systematic **procedure** by means of EDAK claslib (Event Driven Automation Kernel **Class Library**) to support the users to easily implement any event driven automation system. The by-product is to allow system designer to easily expand an existing system or **integrate** several event driven automation systems which are all supported by EDAK control system. (Author abstract) 21 Refs.

Descriptors: *Robotic assembly; **Automation**; **Control systems**; Object oriented programming; Mathematical models; Control system synthesis; Hierarchical systems; Robot programming; Expert systems

Identifiers: Flexible control system; Event Driven Automation Kernel (EDAK) Class Library

Classification Codes:

723.4.1 (Expert Systems)

731.6 (Robot Applications); 913.1 (Production Engineering); 731.1 (Control Systems); 723.1 (Computer Programming); 723.4 (Artificial Intelligence)

731 (Automatic Control Principles); 913 (Production Planning & Control); 723 (Computer Software); 921 (Applied Mathematics)

73 (CONTROL ENGINEERING); 91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

21/5/6 (Item 6 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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06673352 E.I. No: EIP93071022895

Title: Integrated **process planning** and NC part programming system for **rotational components**

Author: Thakar, Girish; Shanker, Kripa; Jain, V.K.

Corporate Source: Indian Inst of Technology, Kanpur, India

Source: Computers in Industry v 21 n 3 Apr 1993. p 341-357

Publication Year: 1993

CODEN: CINUD4 ISSN: 0166-3615

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9309W3

Abstract: This paper describes the design and development of an **integrated** process planning and part programming system for rotational components. The process planning module consists of databases for operations, machines, tools, cutting fluids, machining parameters, work materials, tool materials and tool location on turrets. The part programming module receives its major inputs from the process planning module. Additional information such as part program identification, desirability of coolant, and coordinates of the starting point of an operation, are provided interactively by the user. The part program corresponding to an operation is retrieved from a part **program database created** for the purpose, and the relevant data are incorporated. The system supports standard lathe operations like turning, facing, axial boring, thread turning axial drilling etc. The system provides adequate help facilities in situations of inconsistent inputs and incompatibility amongst entities. It is implemented on an IBM PC-XT/AT compatible. (Author abstract) 16 Refs.

Descriptors: *Process engineering; **Process control**; Computer programming; Planning; Database systems; Rotating machinery; Lathes; Computer applications; Production engineering; Numerical control systems

Identifiers: Rotational components; NC part programming; **Integrated** process planning

Classification Codes:

913.1 (Production Engineering); 731.2 (Control System Applications);
723.5 (Computer Applications); 723.2 (Data Processing)
913 (Production Planning & Control); 731 (Automatic Control Principles)
; 603 (Machine Tools); 601 (Mechanical Design); 723 (Computer Software)
91 (ENGINEERING MANAGEMENT); 73 (CONTROL ENGINEERING); 60 (MECHANICAL
ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

21/5/24 (Item 12 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

04882418 INSPEC Abstract Number: C91037291

Title: Universal process control for flexible manufacturing

Author(s): Weck, M.; Lange, N.

Journal: VDI-Z vol.133, no.3 p.50, 53-6

Publication Date: March 1991 Country of Publication: West Germany

CODEN: VZGTAJ ISSN: 0042-1766

Language: German Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: The elaboration of a control software for flexible manufacturing systems (FMS) is very cost intensive because of the complex functional design of such systems. The paper describes a **modular**, decentrally configured and universal **process control** which can be adapted to various FMS control requirements without great effort. By way of the open type structure, the utilization of communication protocols and the **integration** of a relational **data base** system can provide additional **functions**. This control **software** has been **developed** by the machine tool department of the Laboratorium fur Werkzeugmaschinen und Betriebslehre of the Aachen university in the framework of an industrial working group of FMS manufacturers, FMS users and software houses. (0 Refs)

Subfile: C

Descriptors: flexible manufacturing systems; process computer control; protocols; relational databases

Identifiers: universal **process control**; flexible manufacturing; control software; decentrally configured; open type structure; communication protocols; relational data base system; machine tool department; industrial working group; FMS; software houses

Class Codes: C7160 (Manufacturing and industry); C7420 (Control engineering); C5620 (Computer networks and techniques)

22/5/9 (Item 9 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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07447176 E.I. No: EIP96073241475

Title: Managing control algorithms with an object-oriented database

Author: Bickley, M.; Watson, W.

Corporate Source: Continuous Electron Beam Accelerator Facility, Newport News, VA, USA

Conference Title: Proceedings of the 1995 16th Particle Accelerator Conference. Part 4 (of 5)

Conference Location: Dallas, TX, USA Conference Date: 19950501-19950505

E.I. Conference No.: 44949

Source: Proceedings of the IEEE Particle Accelerator Conference v 4 1995. IEEE, Piscataway, NJ, USA, 95CB35843. p 2276-2278

Publication Year: 1995

CODEN: PIACET

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9609w2

Abstract: The Continuation Electron Beam Accelerator Facility (CEBAF) uses the Experimental Physics and **Industrial Control** System (EPICS) for accelerator control. At CEBAF, there are roughly 125,000 unique instantiated records each associated with a specific piece of hardware. Management of these records in a database simplifies the tasks of **application developers**. CEBAF needed an environment to provide support for development of EPICS **database** management tools. Hence, an **object-oriented database** (OODB) has been chosen because of its higher performance and its ability to smoothly manage objects of different types.
3 Refs.

Descriptors: *Particle accelerators; Database systems; Algorithms; Object oriented programming; Computer control systems; Computer hardware; Data acquisition; Records management; Real time systems; Computer operating systems

Identifiers: Object oriented database; Accelerator control system; Continuous electron beam accelerator; Experimental physics and **industrial control** system

Classification Codes:

932.1.1 (Particle Accelerators)

932.1 (High Energy Physics); 723.3 (Database Systems); 723.1 (Computer Programming); 731.1 (Control Systems); 723.5 (Computer Applications); 722.4 (Digital Computers & Systems)

932 (High Energy, Nuclear & Plasma Physics); 723 (Computer Software); 731 (Automatic Control Principles); 722 (Computer Hardware)

93 (ENGINEERING PHYSICS); 72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

22/5/15 (Item 15 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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06825354 E.I. No: EIP94031245999

Title: Libraries and tools for object-oriented distributed automation software

Author: Pirklbauer, K.; Plosch, R.; Weinreich, R.

Corporate Source: Johannes Kepler Univ of Linz, Linz, Austria

Conference Title: Proceedings of 1993 International Conference on Systems, Man and Cybernetics. Part 4 (of 5)

Conference Location: Le Touquet, Fr Conference Date: 19931017-19931020

E.I. Conference No.: 20056

Source: Proceedings of the IEEE International Conference on Systems, Man and Cybernetics v 4 1993. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA, 93CH3242-5. p 403-408

Publication Year: 1993
CODEN: PICYE3 ISSN: 0884-3627 ISBN: 0-7803-0911-1
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); T
; (Theoretical)

Journal Announcement: 9405w1

Abstract: Object-oriented programming allows the **construction** of **software** component **libraries** and predefined **program** structures (application frameworks) that significantly improve software quality and reduce software development time. We claim that in addition to such libraries we need tools that both allow the composition of applications using such libraries and offer the possibility to experiment with prototypes of such applications. We present the prototyping tool ProcessBuild, which is based on the application framework ProcessTalk. Both support the implementation of software in the area of process automation, an area that is fairly distinct from the construction of graphic user interfaces, for which such libraries or tools are usually intended. (Author abstract) 15 Refs.

Descriptors: *Object oriented programming; Computer aided software engineering; Automation; Distributed computer systems; Computer software; User interfaces; Computer graphics; **Process control**

Identifiers: Program structures; Application frameworks; Software quality ; Prototyping tool; Processbuild; Processtalk; Process automation; Graphic user interfaces

Classification Codes:

723.1 (Computer Programming); 723.5 (Computer Applications); 732.2 (Control Instrumentation); 722.2 (Computer Peripheral Equipment); 731.3 (Specific Variables Control); 722.4 (Digital Computers & Systems)

723 (Computer Software); 732 (Control Devices); 722 (Computer Hardware); 731 (Automatic Control Principles)

72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

22/5/19 (Item 19 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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06601120 E.I. Monthly No: EI9305062619

Title: **Experience with Autonet.**

Author: Rodeheffer, Thomas L.

Corporate Source: Digital Equipment Corp, Palo Alto, CA, USA

Source: Computer Networks and ISDN Systems v 25 n 6 Jan 1993 p 623-629

Publication Year: 1993

CODEN: CNISE9 ISSN: 0169-7552

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review)

Journal Announcement: 9305

Abstract: Autonet is a self-configuring, switch-based local-area network with automatic routing of individual Ethernet-style packets. The twelve ports on each switch may be connected to host controllers or other switch ports in arbitrary configurations. A distributed control program running in the switches monitors the state of the network, determines deadlock-free routes for all sources and destinations, and sets up hardware forwarding tables for each switch. A link is a single wire of cable-television coax up to 100 m long, passing data at 100 Mbit/s simultaneously in each direction. Functionally, Autonet looks like Ethernet, but it is faster, easier to manage, and more available. Autonet has excellent performance and can grow easily and economically by adding redundant links and switches to provide increased throughput. Automatic reconfiguration and failover enable the network to operate in any configuration, to defend itself against intermittent components, and to be repaired while still in operation. (Author abstract) 7 Refs.

Descriptors: *LOCAL AREA NETWORKS; DATA COMMUNICATION SYSTEMS; CRITICAL PATH ANALYSIS; DATA PROCESSING; **AUTOMATION** ; **CONTROL SYSTEMS** ; COMPUTER

SOFTWARE

Identifiers: AUTONET; ETHERNET; DEADLOCK FREE ROUTES; DISTRIBUTED CONTROL PROGRAMS ; HARDWARE FORWARDING TABLES ; REDUNDANT LINKS AND SWITCHES
Classification Codes:
722 (Computer Hardware); 723 (Computer Software); 731 (Automatic Control Principles)
72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

22/5/36 (Item 9 from file: 2)

DIALOG(R)File 2:INSPEC

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05730466 INSPEC Abstract Number: C9409-6115-024

Title: A generalized approach to program generation for process control applications

Author(s): Angelov, C.K.; Ivanov, I.E.; Petkov, P.T.

Author Affiliation: Dept. of Autom. and Syst. Eng., Tech. Univ. Sofia, Bulgaria
p.31-6

Editor(s): Boullart, L.; de la Puente, J.A.

Publisher: Pergamon Press, Oxford, UK

Publication Date: 1992 Country of Publication: UK 286 pp.

ISBN: 0 08 041894 5

Conference Title: Proceedings of 18th IFAC Workshop on Real Time Programming (WRTP '92)

Conference Sponsor: IFAC; IFIP

Conference Date: 23-26 June 1992 Conference Location: Bruges, Belgium

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: A software design method is proposed in an attempt to overcome the limitations of current program generation techniques. This has been achieved by means of a general-purpose method for control program specification. The latter encompasses two types of specification, describing control program internal structure, as well as real-time behavior, in the context of various types of **process control** systems (i.e. continuous, sequence and batch **process control** systems, etc.). This method has been further enhanced by developing facilities for computer-aided design of new software modules to be included in the **program generator library**, i.e. a **code generator** and yet another facility, allowing the user to define and subsequently use higher-level (composite) modules. (7 Refs)

Subfile: C

Descriptors: automatic programming; CAD; configuration management; formal specification; process computer control; real-time systems

Identifiers: program generation; **process control** applications; software design method; control program specification; control program internal structure; real-time behavior; continuous processes; sequence processes; batch processes; computer-aided design; software modules; **program generator library**; code generator; higher-level modules; software configuration specifications; composite functional modules; module generation

Class Codes: C6115 (Programming support); C7420 (Control engineering); C6110B (Software engineering techniques); C3350 (Industrial production systems)

22/5/37 (Item 10 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

05627311 INSPEC Abstract Number: C9405-6110J-004

Title: Object-oriented programming in process control

Author(s): Hill, R.; McKinnon, M.

Journal: Elektron vol.10, no.8 p.29-30

Publication Date: Aug. 1993 Country of Publication: South Africa

CODEN: ELEKE7 ISSN: 0255-8637

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: One of the major problems in getting to grips with object-oriented programming (OOP) is the seemingly endless list of arcane jargon associated with this technology. The authors briefly explain what is meant by the jargon and what is involved in OOP. They then describe object-oriented graphics and its **application to process control**. The **authors** discuss defining an **object** and then discuss **object-oriented databases**. (0 Refs)

Subfile: C

Descriptors: object-oriented databases; object-oriented programming; process computer control

Identifiers: object-oriented programming; **process control**; object-oriented graphics; object-oriented databases

Class Codes: C6110J (Object-oriented programming); C6160J (Object-oriented databases); C7420 (Control engineering); C3355 (Manufacturing processes)

22/5/38 (Item 11 from file: 2)

DIALOG(R)File 2:INSPEC

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05041403 INSPEC Abstract Number: C9201-6110-021

Title: object-oriented programming and visualization of automation systems

Author(s): Zwinge, P.

Author Affiliation: SattControl GmbH, Haan, Germany

Journal: Automatisierungstechnische Praxis vol.33, no.9 p.485-90

Publication Date: Sept. 1991 Country of Publication: West Germany

CODEN: ARTPER ISSN: 0178-2320

Language: German Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: The programming of automation-systems and the visualization of the process in one single step is now realised by SattControl's **process - control** -system SattLine. SattLine exceeds customary programming and the separated visualization and offers a lot of tools to configurate complete automation-networks. SattLine summarizes these working-steps in a common, object-oriented graphic-editor. Further functions i.e.: clutch on standard-**module - libraries**, creation of individual **libraries**, window- and zoom-**functions**, batch- and report-handling, and software-test-routines reduce the time spent on **creating the programs** for process-checking and -controlling. (4 Refs)

Subfile: C

Descriptors: object-oriented programming; process computer control

Identifiers: automation systems; SattControl's **process - control** -system; SattLine; complete automation-networks; object-oriented graphic-editor; clutch on standard-module-libraries; zoom-functions; report-handling; software-test-routines; process-checking

Class Codes: C6110 (Systems analysis and programming)

22/5/49 (Item 22 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

01858660 INSPEC Abstract Number: C76003389

Title: The creation of the library of model algorithms for process control systems

Author(s): Feytis, J.; Mencil, J.

Journal: Automatizovane Systemy Rizeni - Bulletin INORGA vol.9, no.4 p.169-74

Publication Date: 1975 Country of Publication: Czechoslovakia

CODEN: ASRID2 ISSN: 0323-1410

Language: Czech Document Type: Journal Paper (JP)
Treatment: Applications (A); Practical (P)
Abstract: Deals with the significant features of the main direction in scientific research in the field of **process control**, necessary for the fulfilment of the planned development of automated **process control** systems-creation of the model algorithms. (3 Refs)
Subfile: C
Descriptors: modelling; **process control**
Identifiers: library; model algorithms; **process control** systems; scientific research
Class Codes: C1220 (Simulation, modelling and identification); C3350 (Industrial production systems)

22/5/50 (Item 23 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2006 Institution of Electrical Engineers. All rts. reserv.

01290485 INSPEC Abstract Number: C71016901
Title: **Programming system for industrial process control**
Author(s): Ollivier, F.; Boudillon, L.
Author Affiliation: Telemecanique, Torino, Italy
Conference Title: Proceedings of the 11th automation and instrumentation conference Part II p.1121-34
Publisher: Fed. Sci. and Tech. Assocs, Milan, Italy
Publication Date: 1970 Country of Publication: Italy xx+715 pp.
Conference Sponsor: Italian Nat. Res. Council; Italian Nat. Assoc. Automation
Conference Date: 23-25 Nov. 1970 Conference Location: Milan, Italy
Language: French Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: Discusses a technique of the type 'fill in the form' in order to realise the programming system for the Telemecanique T2000 Computer. The package consists of: a real time supervisor and special monitor systems, a data logging-interpreter, a control-interpreter, utility **programs** (conversational **program**, **assembler**, ...), user **programs**. The interpreter **programs** operate on data contained in **tables**: these on are compiled by utility language. For the control (DDC, supervision) these tables may be prepared 'on line': the user, consequently, has the possibility to modify the control policy without halting the process. In addition the system comprises programs for the identification and for the determination of corrections and simulations, thus permitting to the user a powerful means for modification of the control policy.
Subfile: C
Descriptors: **process control**; program interpreters; real-time systems; supervisory programs; utility programs
Identifiers: programming system; industrial **process control**; Telemecanique T2000 computer; real time supervisor; monitor systems; data logging interpreter; control interpreter; utility programs; user programs
Class Codes: C6100 (Software techniques and systems)

File 8: Ei Compendex(R) 1884-2006/Nov w1
 (c) 2006 Elsevier Eng. Info. Inc.
 File 35: Dissertation Abs Online 1861-2006/Nov
 (c) 2006 ProQuest Info&Learning
 File 65: Inside Conferences 1993-2006/Nov 27
 (c) 2006 BLDSC all rts. reserv.
 File 2: INSPEC 1898-2006/Nov w3
 (c) 2006 Institution of Electrical Engineers
 File 94: JICST-EPlus 1985-2006/Aug w2
 (c) 2006 Japan Science and Tech Corp(JST)
 File 6: NTIS 1964-2006/Nov w2
 (c) 2006 NTIS, Intl Cpyrght All Rights Res
 File 144: Pascal 1973-2006/Nov w1
 (c) 2006 INIST/CNRS
 File 434: Scisearch(R) Cited Ref Sci 1974-1989/Dec
 (c) 2006 The Thomson Corp
 File 34: Scisearch(R) Cited Ref Sci 1990-2006/Nov w3
 (c) 2006 The Thomson Corp
 File 99: Wilson Appl. Sci & Tech Abs 1983-2006/Sep
 (c) 2006 The HW Wilson Co.
 File 266: FEDRIP 2006/Aug
 Comp & dist by NTIS, Intl Copyright All Rights Res
 File 95: TEME-Technology & Management 1989-2006/Nov w4
 (c) 2006 FIZ TECHNIK
 File 56: Computer and Information Systems Abstracts 1966-2006/Nov
 (c) 2006 CSA.
 File 60: ANTE: Abstracts in New Tech & Engineer 1966-2006/Nov
 (c) 2006 CSA.
 File 62: SPIN(R) 1975-2006/Nov w2
 (c) 2006 American Institute of Physics

Set	Items	Description
S1	238201	MACHINE(1w)AUTOMATION OR AUTOMATION()(PROGRAM? ? OR SOFTWARE OR APPLICATION? ? OR CONTROL???? OR PROCEDURE? ?) OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S2	132663	(PLANT OR FACTORY OR INSTRUMENT? ?)(3N)(AUTOMAT??? OR CONTROL????)
S3	62571	PROGRAMMABLE()LOGIC()CONTROLLER? ? OR PLC? ? OR PROCESS()AUTOMATION()CONTROL? ? OR PAC
S4	12584616	APPLICATION? ? OR PROGRAM? ? OR SOFTWARE OR ALGORITHM? ? OR PROCEDURE? ? OR CODE
S5	1757436	S4(5N)(GENERAT? OR CREAT??? OR DEVELOP??? OR WRIT??? OR AUTHOR? OR CONSTRUCT? OR BUILD??? OR BUILT OR PRODUCE OR PRODUCES OR PRODUCTION OR FORM? ? OR FORMED OR FORMING OR FORMATION OR ASSEMBL? OR LINK??? OR COMBIN? OR JOIN???)
S6	181607	(LIBRARY OR LIBRARIES OR TABLE? ? OR DIRECTORY OR DIRECTORIES OR DATABASE? ? OR DATA()BASE? ? OR REPOSITOR???) (5N)(MODULE? ? OR OBJECT? ? OR FUNCTION? ? OR CLASS OR CLASSES OR APPL-ET? ? OR FILE? ? OR ALGORITHM? ? OR PROCEDURE? ? OR CODE OR PROGRAM? ?)
S7	382	S1 AND S5 AND S6
S8	152	S2 AND S5 AND S6
S9	96	S3 AND S5 AND S6
S10	19584	S5(20N)S6
S11	189	S1 AND S10
S12	87	S2 AND S10
S13	39	S3 AND S10
S14	125	S12:S13
S15	102	RD (unique items)
S16	92	S15 NOT PY=2004:2006
S17	235017	MACHINE(1w)AUTOMATION OR AUTOMATION()CONTROL???? OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S18	165	S17 AND S10

S19	129	RD (unique items)
S20	101	S19 NOT (S15 OR PY=2004:2006)
S21	36	S20 AND (MODULAR? OR INTEGRAT? OR REUSAB?)
S22	65	S20 NOT S21
S23	12684	AU=(MILLS, D? OR WAGNER, S? OR MILLS D? OR WAGNER S?)
S24	37	S1:S3 AND S23
S25	3	S5:S6 AND S24
S26	19	S17 AND S23
S27	18	RD (unique items)

File 348:EUROPEAN PATENTS 1978-2006/ 200646

(c) 2006 European Patent Office

File 349:PCT FULLTEXT 1979-2006/UB=20061123UT=20061116

(c) 2006 WIPO/Thomson

Set	Items	Description
S1	18414	MACHINE(1W)AUTOMATION OR AUTOMATION()CONTROL???? OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S2	23368	(PLANT OR FACTORY OR INSTRUMENT? ?)(3N)(AUTOMAT??? OR CONTROL????)
S3	57453	PROGRAMMABLE()LOGIC()CONTROLLER? ? OR PLC? ? OR PROCESS()AUTOMATION()CONTROL? ? OR PAC
S4	2937543	APPLICATION? ? OR PROGRAM? ? OR SOFTWARE OR ALGORITHM? ? OR PROCEDURE? ? OR CODE
S5	423771	S4(5N)(GENERAT? OR CREAT??? OR DEVELOP??? OR WRIT??? OR AUTHOR? OR CONSTRUCT? OR BUILD??? OR BUILT OR PRODUCE OR PRODUCES OR PRODUCTION OR FORM? ? OR FORMED OR FORMING OR FORMATION OR ASSEMBL? OR LINK??? OR COMBIN? OR JOIN???)
S6	129078	(LIBRARY OR LIBRARIES OR TABLE? ? OR DIRECTORY OR DIRECTORIES OR DATABASE? ? OR DATA()BASE? ? OR REPOSITOR???) (5N)(MODULE? ? OR OBJECT? ? OR FUNCTION? ? OR CLASS OR CLASSES OR APPL-ET? ? OR FILE? ? OR ALGORITHM? ? OR PROCEDURE? ? OR CODE OR PROGRAM? ?)
S7	18485	S5(20N)S6
S8	86	S1(50N)S7
S9	27	S2(50N)S7
S10	25	S3(50N)S7
S11	42	S1:S3/TI,AB AND S8:S10
S12	42	IDPAT (sorted in duplicate/non-duplicate order)

12/9/7 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00684030

UNIFORM CONTROL TEMPLATE GENERATING SYSTEM AND METHOD FOR PROCESS
CONTROL PROGRAMMING
SYSTEM ZUR ERZEUGUNG VON UNIFORMEN STEUERUNGSMODELLEN UND VERFAHREN ZUR
PROZESSSTEUERUNGSPROGRAMMIERUNG
PROCEDE ET SYSTEME DE GENERATION D'UN MODELE DE COMMANDE UNIFORME
S'APPLIQUANT A LA PROGRAMMATION D'UNE COMMANDE DE PROCESSUS

PATENT ASSIGNEE:

Fisher-Rosemount Systems, Inc., (1756730), 8301 Cameron Road, Austin,
Texas 78754, (US), (Proprietor designated states: all)

INVENTOR:

BLEVINS, Terrence, L., 3801 Carmel Drive, Round Rock, TX 78481, (US)

LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 711429 A1 960515 (Basic)

EP 711429 B1 010328

WO 9504314 950209

APPLICATION (CC, No, Date): EP 94923894 940616; WO 94US6858 940616

PRIORITY (CC, No, Date): US 98790 930729

DESIGNATED STATES: DE; FR; GB; SE

INTERNATIONAL PATENT CLASS (V7): G05B-019/042

CITED PATENTS (EP B): WO 91/19237 A; US 4843538 A; US 4964042 A

CITED REFERENCES (EP B):

PROCEEDINGS OF THE INDUSTRIAL COMPUTING CONFERENCE, vol.1, OCT. 27-31,
1991, USA pages 387 - 400, XP000344823 W. MACLAY 'A GRAPHICAL

PROFRAMMING ENVIRONMENT FOR DATA ACQUISITION AND PROCESS CONTROL'
CONTROL ENGINEERING, vol.39, no.11, September 1992, NEW YORK US pages 98
- 101, XP000316280 J.S. GEROLD 'OPERATOR INTERFACES OPEN NEW WINDOWS ON
THE PROCESS'

AUTOMATISIERUNGSTECHNISCHE PRAXIS - ATP, vol.32, no.11, November 1990,
MUNCHEN DE pages 529 - 536, XP000173230 H.-P. KEMPNY & U. MAIER
'HERSTELLERNEUTRALE KONFIGURIERUNG VON PROZESSLEITSYSTEMEN'

IBM TECHNICAL DISCLOSURE BULLETIN, vol.33, no.6A, November 1990, US pages
483 - 485 'ARCHITECTURE FOR SEPARATE USER-INTERFACE SOFTWARE
DEVELOPMENT';

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Grant: 010328 B1 Granted patent

Application: 950517 A International application (Art. 158(1))

Oppn None: 020320 B1 No opposition filed: 20011229

Application: 960515 A1 Published application (A1with Search Report
;A2without Search Report)

Examination: 960515 A1 Date of filing of request for examination:
960129

Examination: 980527 A1 Date of despatch of first examination report:
980414

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200113	1303
CLAIMS B	(German)	200113	1158
CLAIMS B	(French)	200113	1633
SPEC B	(English)	200113	10283
Total word count - document A			0
Total word count - document B			14377
Total word count - documents A + B			14377

Systems that perform, monitor, control, and feed back functions in process control environments are typically implemented by software written in high-level computer programming languages such as Basic, Fortran or C and executed on a computer or controller. These high-level languages, although effective for process control programming, are not usually used or understood by process engineers, maintenance engineers, control engineers, operators and supervisors. Higher level graphical display languages have been developed for such personnel, such as continuous function block and ladder logic. Thus each of the engineers, maintenance personnel, operators, lab personnel and the like, require a graphical view of the elements of the process control system that enables them to view the system in terms relevant to their responsibilities.

For example, a process control program might be written in Fortran and require two inputs, calculate the average of the inputs and produce an output value equal to the average of the two inputs. This program could be termed the AVERAGE function and may be invoked and referenced through a graphical display for the control engineers. A typical graphical display may consist of a rectangular block having two inputs, one output, and a label designating the block as AVERAGE. A different program may be used to create a graphical representation of this same function for an operator to view the average value. Before the system is delivered to the customer, these software programs are placed into a library of predefined user selectable features. The programs are identified by function blocks. A user may then invoke a function and select the predefined graphical representations to create different views for the operator, engineer, etc. by selecting one of a plurality of **function** blocks from the **library** for use in defining a **process control** solution rather than having to **develop** a completely new **program** in Fortran, for example.

A group of standardized functions, each designated by an associated function block, may be stored in a control library. A designer equipped with such a library can design **process control** solutions by interconnecting, on a computer display screen, various functions or elements selected with the function blocks to perform particular tasks. The microprocessor or computer associates each of the functions or elements defined by the function blocks with predefined templates stored in the library and relates each of the program functions or elements to each other according to the interconnections desired by the designer. Ideally, a designer could design an entire process control program using graphical views of predefined functions without ever writing one line of code in Fortran or other high-level programming language.

12/3,k/7 (Item 7 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00684030

UNIFORM CONTROL TEMPLATE GENERATING SYSTEM AND METHOD FOR PROCESS
CONTROL PROGRAMMING

SYSTEM ZUR ERZEUGUNG VON UNIFORMEN STEUERUNGSMODELLEN UND VERFAHREN ZUR
PROZESSSTEUERUNGSPROGRAMMIERUNG

PROCEDE ET SYSTEME DE GENERATION D'UN MODELE DE COMMANDE UNIFORME
S'APPLIQUANT A LA PROGRAMMATION D'UNE COMMANDE DE PROCESSUS

PATENT ASSIGNEE:

Fisher-Rosemount Systems, Inc., (1756730), 8301 Cameron Road, Austin,
Texas 78754, (US), (Proprietor designated states: all)

INVENTOR:

BLEVINS, Terrence, L., 3801 Carmel Drive, Round Rock, TX 78481, (US)

LEGAL REPRESENTATIVE:

Bohnenberger, Johannes, Dr. et al (55292), Meissner, Bolte & Partner
Widenmayerstrasse 48, 80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 711429 A1 960515 (Basic)

EP 711429 B1 010328

WO 9504314 950209

APPLICATION (CC, No, Date): EP 94923894 940616; WO 94US6858 940616

PRIORITY (CC, No, Date): US 98790 930729

DESIGNATED STATES: DE; FR; GB; SE

INTERNATIONAL PATENT CLASS (V7): G05B-019/042

NOTE:

No A-document published by EPO

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200113	1303
CLAIMS B	(German)	200113	1158
CLAIMS B	(French)	200113	1633
SPEC B	(English)	200113	10283

Total word count - document A 0

Total word count - document B 14377

Total word count - documents A + B 14377

UNIFORM CONTROL TEMPLATE GENERATING SYSTEM AND METHOD FOR PROCESS
CONTROL PROGRAMMING

...SPECIFICATION create different views for the operator, engineer, etc. by
selecting one of a plurality of **function** blocks from the **library** for
use in defining a **process control** solution rather than having to
develop a completely new **program** in Fortran, for example.

A group of standardized functions, each designated by an associated
function...

...be stored in a control library. A designer equipped with such a library
can design **process control** solutions by interconnecting, on a
computer display screen, various functions or elements selected with the
...

12/3,k/12 (Item 12 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00251666 **Image available**

INTELLIGENT PROCESS CONTROL COMMUNICATION SYSTEM AND METHOD

PROCEDE ET SYSTEME DE COMMUNICATON INTELLIGENTS DESTINES A LA COMMANDE DE
PROCESSUS INDUSTRIELS

Patent Applicant/Assignee:

THE DOW CHEMICAL COMPANY,

Inventor(s):

ALLBERY James D Jr,
JOHNSON Susan J,
TROISI Peter A,
CULLEN James H,
BUTLER Richard L,
PATEL Chiman L,
FERREIRA James P,
UBAN James E,
ELLISON Joseph,
SCHULTZ Dale H,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9325965 A1 19931223
Application: WO 93US5206 19930601 (PCT/WO US9305206)
Priority Application: US 92898126 19920612

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AT AU BB BG BR CA CH CZ DE DK ES FI GB HU JP KR LK LU MG MN MW NL NO NZ
PL PT RO RU SD SE SK UA AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 17116

INTELLIGENT PROCESS CONTROL COMMUNICATION SYSTEM AND METHOD

Fulltext Availability:

Detailed Description

English Abstract

An intelligent front-end communication system which is interposed between a plurality of actively redundant **process control** computers and a computer network. The intelligent front end communication system includes at least one...

...the computer network, and a serial communication interface which is coupled between the actively redundant **process control** computers and the front end computer. The serial communication interface transmits sequential sets of dynamic data from the actively redundant **process control** computers to the front end computer. The front end computer includes a plurality of reflective...

Detailed Description

... in the appropriate application.

Nevertheless, the use of different Ethernet protocols for security messages and write command messages, the use of different encryption **algorithms** for security **table** transfers and **write** command communication contracts, the imitation of the time of the write command communication contracts ...

...combine to provide a very high degree of communication and write command security for the **process control** computers 12a-1 2b.

1 5 Additional protection is also substantially provided by the guardian ...

12/3,K/14 (Item 14 from file: 348)

DIALOG(R) File 348: EUROPEAN PATENTS

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01721357

Method, system and storage medium for enhancing **process control**
Verfahren, System und Speichermedium zur Verbesserung einer
Prozess-Steuerung
Procede, moyen de stockage et systeme d'amelioration de commande de

processus

PATENT ASSIGNEE:

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Avagliano, Aaron J., 958 Main Street, Clifton Park New York 12065, (US)
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LEGAL REPRESENTATIVE:

Goode, Ian Roy (31097), London Patent Operation General Electric International, Inc. 15 John Adam Street, London WC2N 6LU, (GB)

PATENT (CC, No, Kind, Date): EP 1411403 A1 040421 (Basic)

APPLICATION (CC, No, Date): EP 2003255008 030813;

PRIORITY (CC, No, Date): US 64852 020823

DESIGNATED STATES: DE; ES; FR; GB; IT

EXTENDED DESIGNATED STATES: AL; LT; LV; MK

INTERNATIONAL PATENT CLASS (V7): G05B-019/404; G05B-019/401; G05B-019/418; B25J-009/16

ABSTRACT WORD COUNT: 154

NOTE:

Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200417	720
SPEC A	(English)	200417	5051
Total word count - document A			5771
Total word count - document B			0
Total word count - documents A + B			5771

Method, system and storage medium for enhancing process control

...ABSTRACT A1

Disclosed herein is a method for enhancing **process control**.
Disclosed herein is a method for enhancing **process control** including initiating a manufacturing process (104) to create a product. The initiating includes setting a...

...updated system model (102). Additional embodiments include a system and a storage medium for enhancing **process control**.

...SPECIFICATION from a user system 120 would have access to use reporting applications provided by the **applications** server but not be given **authority** to alter the **applications** or data stored in **database** 114 or run the transfer **function** driver 102. The firewall server may be implemented using conventional hardware and/or software as...

...production performance, process set points, quality reports and job tracking. In an embodiment for optimizing **process control** in the manufacture of a DVD, the database 114 may include data/information such as...

12/3,K/28 (Item 28 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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01200877 **Image available**

CONFIGURABLE PLC AND SCADA-BASED CONTROL SYSTEM

SYSTEME DE COMMANDE A PLC CONFIGURABLE ET BASE SUR SCADA

Patent Applicant/Assignee:

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 Patent Applicant/Inventor:
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 ALEXANDER Brad Alan, 16006 Holdridge Road West, Wayzata, MN 55391, US, US
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 WICHMAN Christopher Allen, 5617 St. Andrews Avenue, Edina, MN 55424, US,
 US (Residence), US (Nationality), (Designated only for: US)
 LAFORTUNE Wesley D, 4649 Island View Drive, Mound, MN 55364, US, US
 (Residence), US (Nationality), (Designated only for: US)
 Legal Representative:
 ZEBRAK Ira Lee (agent), The Boc Group, Inc., 575 Mountain Avenue, Murray
 Hill, NJ 07974, US,
 Patent and Priority Information (Country, Number, Date):
 Patent: WO 200508349 A1 20050127 (WO 0508349)
 Application: WO 2004US15785 20040520 (PCT/WO US04015785)
 Priority Application: US 2003460794 20030612
 Designated States:
 (All protection types applied unless otherwise stated - for applications
 2004+)
 AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
 DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
 LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO
 RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
 (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO
 SE SI SK TR
 (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
 (AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
 (EA) AM AZ BY KG KZ MD RU TJ TM
 Publication Language: English
 Filing Language: English
 Fulltext Word Count: 6382

CONFIGURABLE PLC AND SCADA-BASED CONTROL SYSTEM **SYSTEME DE COMMANDE A PLC CONFIGURABLE ET BASE SUR SCADA**

Fulltext Availability:

Detailed Description
 English Abstract

...images. The deployment tool also provides the data via a download
 application (7) to a PLC application (9) for defining the objects and
 logic of the processing system.

French Abstract

...de deploiement fournit egalement des donnees via une application de
 telechargement (7) a une application PLC (9) pour definir les objets
 et la logique du systeme de traitement.

Detailed Description

... it is important to note in the present invention, as previously
 mentioned, that the configuration. **databases** 4 and GUI **program** are
 used for **creating** the **databases**

6

for both the SCADA application 11, and PLC application 9. The
construction of the PLC data array 10 enables the RSLinx to
 efficiently download data from the deployment tool 3 to the PLC 8.

As shown below, the use of graphical user interfaces permit a user to
 define...

...of the object tag is derived from the Configuration Tool database 4.
 Each time a **linked** screen is opened, the SCADA **application** software I
 I gathers its animation data from the Configuration **Database** 4 and
 activates the **objects** on the screen of the computer monitor (not
 shown). The SCADA tags are a set of addresses for I/O points that reside
 in the PLC 8. The SCADA software uses RSLinx or other communication OPC

drivers to communicate to the PLC and determine the status of the SCADA tag. Animation then occurs based upon the state...

12/3,K/31 (Item 31 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00972250

**SUPERVISORY PROCESS CONTROL AND MANUFACTURING INFORMATION SYSTEM
APPLICATION HAVING AN EXTENSIBLE COMPONENT MODEL
APPLICATION DE SYSTEME D'INFORMATION DE FABRICATION ET DE COMMANDE DE
PROCESSUS DE SUPERVISION, A MODELE DE COMPOSANT EXTENSIBLE**

Patent Applicant/Assignee:

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MODY Pankaj H, 15 Phaedra, Laguna Niguel, CA 92677, US,

Legal Representative:

JOY Mark (et al) (agent), Leydig, Voit & Mayer, Ltd., Two Prudential Plaza, Suite 4900, 180 North Stetson, Chicago, IL 60601-6780, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200301343 A2-A3 20030103 (WO 0301343)

Application: WO 2002US20191 20020624 (PCT/WO US0220191)

Priority Application: US 2001300363 20010622; US 2001300157 20010622

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

DE

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Publication Language: English

Filing Language: English

Fulltext word Count: 18128

**SUPERVISORY PROCESS CONTROL AND MANUFACTURING INFORMATION SYSTEM
APPLICATION HAVING AN EXTENSIBLE COMPONENT MODEL**

Fulltext Availability:

Detailed Description

English Abstract

A template-based supervisory **process control** and manufacturing information application development facility is disclosed that includes a number of time-saving application development tools that significantly enhance design productivity and allow re-using of previously **developed application building** blocks. The development facility includes an application **object template library** that stores a set of previously defined application **object template library** that stores a set of previously defined application object templates. The template library is accessed...

Detailed Description

... needs.

SUMMARY OF THE INVENTION

In accordance with the present invention, a template-based supervisory **process control** and manufacturing information application development facility includes a number of timesaving application development tools that significantly enhance design productivity and allow re-using of previously **developed application building** blocks. The development

facility includes an application **object** template **library** that stores a set of previously defined application **object** templates. The template **library** is accessed by developers through a configuration utility that facilitates specifying instances of the set...applications is carried out via an Integrated Development Environment (IDE) 127 that communicates with the **database** server 122 via distributed .

component **object** model (DCOM) protocols. The IDE is a utility from which application objects are configured and deployed to the **application** server PCs 100 and 102. **Developers** of a supervisory **process control** and manufacturing information application, through the IDE, carry out a wide variety of system design....

12/3,K/33 (Item 33 from file: 349)
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00971349 **Image available**

A PROCESS CONTROL SCRIPT DEVELOPMENT AND EXECUTION FACILITY SUPPORTING
MULTIPLE USER-SIDE PROGRAMMING LANGUAGES
SYSTEME DE CREATION ET D'EXECUTION DE SCRIPTS DE COMMANDE DE PROCESSUS
PRENANT EN CHARGE DES LANGAGES DE PROGRAMMATION MULTIPLES COTE
UTILISATEUR

Patent Applicant/Assignee:

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Patent and Priority Information (Country, Number, Date):

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Priority Application: US 2001300363 20010622; US 2001300157 20010622; US
2001300400 20010622

Designated States:

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DE

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Publication Language: English

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Fulltext Word Count: 10339

A PROCESS CONTROL SCRIPT DEVELOPMENT AND EXECUTION FACILITY SUPPORTING
MULTIPLE USER-SIDE PROGRAMMING LANGUAGES

Fulltext Availability:

Detailed Description

English Abstract

A supervisory **process control** and manufacturing information
application development and execution system (FIG. 1) is disclosed that
supports the...

Detailed Description

... applications is carried out via an Integrated Development Environment
(IDE) 127 that communicates with the **database** server 122 via
distributed component **object** model (DCOM) protocols. The IDE is a
utility from which application objects are configured and deployed to
the **application** server PCs 100 and 102. **Developers** of a supervisory
process control and manufacturing information application, through the
IDE, carry out a wide variety of system design...

12/3,k/35 (Item 35 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00571491 **Image available**

**TIMEOUT OBJECT FOR OBJECT-ORIENTED, REAL-TIME PROCESS CONTROL SYSTEM
AND METHOD OF OPERATION THEREOF**

**OBJET DE TEMPORISATION DESTINE A UN SYSTEME DE COMMANDE DE PROCESSUS EN
TEMPS REEL, ORIENTE OBJET, ET PROCEDE DE FONCTIONNEMENT ASSOCIE**

Patent Applicant/Assignee:

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KAAKANI Ziad M,

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200034864 A2 20000615 (WO 0034864)

Application: WO 99US27659 19991122 (PCT/WO US9927659)

Priority Application: US 98205769 19981204

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CA JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 4942

**TIMEOUT OBJECT FOR OBJECT-ORIENTED, REAL-TIME PROCESS CONTROL SYSTEM
AND METHOD OF OPERATION THEREOF**

Fulltext Availability:

Detailed Description

English Abstract

...a resource, a timeout object, a method of operating the same and a
real-time **process control** system employing the timeout object or the
method. In one embodiment, the timeout object includes...

Detailed Description

... requests.

The historical processor software 222 collects and processes historical
information about the real-time **process control** system 100. The
historical processor software 222 also performs archival **functions** and
stores information to the **database** software 240.

The report processor **software** 224 **generates** the reports for the
real-time **process control** system 100. The report processor software
224 sends the generated reports to the operator display...

12/3,k/38 (Item 38 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00445872 **Image available**

**SYSTEM FOR ASSISTING CONFIGURING A PROCESS CONTROL ENVIRONMENT
SYSTEME D'AIDE A LA CONFIGURATION D'UN ENVIRONNEMENT DE GESTION DE
PROCESSUS INDUSTRIELS**

Patent Applicant/Assignee:

FISHER-ROSEMOUNT SYSTEMS INC,

Inventor(s):

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Patent and Priority Information (Country, Number, Date):

Patent: WO 9836336 A1 19980820

Application: WO 98US1571 19980206 (PCT/WO US9801571)
Priority Application: US 97799966 19970214
Designated States:
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AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR
GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Publication Language: English
Fulltext Word Count: 11500

SYSTEM FOR ASSISTING CONFIGURING A PROCESS CONTROL ENVIRONMENT

Fulltext Availability:
Detailed Description

English Abstract

A configuration assistant system is disclosed which guides a user through configuring a **process control** environment via a sequence of screen presentations. The configuration assistant system advantageously enables a **process control** designer or user to quickly and easily configure a **process control** environment. The screen presentations may be contained within a plurality of instructional sections to further assist the **process control** designer in configuring the **process control** environment.

Detailed Description

... create different views for the operator, engineer, etc. by selecting one of a plurality of **function** blocks from the **library** for use in defining a **process control** solution rather than having to **develop** a completely new **program** in Fortran, for example.
SUBSTITUTE SHEET (RULE 26)

A group of standardized functions, each designated...

...be stored in a control library. A designer equipped with such a library can design **process control** solutions by interconnecting, on a computer display screen, various functions or elements selected with the ...

12/3,K/39 (Item 39 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00445871 **Image available**

PROCESS CONTROL SYSTEM USING A LAYERED-HIERARCHY CONTROL STRATEGY
DISTRIBUTED INTO MULTIPLE CONTROL DEVICES
SYSTEME DE GESTION DE PROCESSUS INDUSTRIELS UTILISANT UNE STRATEGIE DE
GESTION A HIERARCHIE EN COUCHES REPARTIE DANS DES DISPOSITIFS DE
COMMANDE MULTIPLES

Patent Applicant/Assignee:

FISHER-ROSEMOUNT SYSTEMS INC,

Inventor(s):

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WEBB Arthur,
LUCAS Mike,
HOFFMASTER James,
OTTENBACHER Ron,
BEUGHTER Ken J,
FALTESEK Roy,

KRIVOSHEIN Ken D,
SHEPARD John R,
CHRISTENSEN Dan D,
SCHLEISS Duncan,

Patent and Priority Information (Country, Number, Date):

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Application: WO 98US1573 19980206 (PCT/WO US9801573)
Priority Application: US 97799966 19970214

Designated States:

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AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR
GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 49539

**PROCESS CONTROL SYSTEM USING A LAYERED-HIERARCHY CONTROL STRATEGY
DISTRIBUTED INTO MULTIPLE CONTROL DEVICES**

Fulltext Availability:

Detailed Description

English Abstract

...downloaded portions of the overall strategy independently of other portions of the control strategy. The **process control** system includes a diagnostic monitoring and display functionality for viewing, in a coherent manner, diagnostic...

...a network of a digital device that is not included in the predetermined configuration. The **process control** system includes a user interface (300) which supports multiple IEC-1131 standard control languages and...

...Blocks, Sequential Function Charts, Ladder Logic and Structural Text, to implement a control strategy. The **process control** system includes an alarm and event monitoring and display system for which various users of ...

Detailed Description

... create different views for the operator, engineer, etc. by selecting one of a plurality of **function** blocks from the **library** for use in defining a **process control** solution rather than having to **develop** a completely new **program** in Fortran, for example.

A group of standardized functions, each designated by an associated function...

...be stored in a control library. A designer equipped with such a library can design **process control** solutions by interconnecting, on a computer display screen, various functions or elements selected with the ...

12/3,k/40 (Item 40 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00415592 **Image available**

SYSTEM AND METHOD FOR MATERIALS PROCESS CONTROL

SYSTEME ET PROCEDE SERVANT A COMMANDER LE TRAITEMENT DE MATERIAUX

Patent Applicant/Assignee:

THE UNITED STATES OF AMERICA represented by THE SECRETARY OF AGRICULTURE,

Inventor(s):

ANTHONY William S,
BYLER Richard K,
Patent and Priority Information (Country, Number, Date):
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Publication Language: English
Fulltext word Count: 78669

SYSTEM AND METHOD FOR MATERIALS PROCESS CONTROL
Fulltext Availability:
Detailed Description

Detailed Description

... model 1020, algorithmic rather
than tabular transition functions are used. The optimum machine
sequences are **generated** by the **algorithms**, rather than being
stored in a **table**. As such, a gin configuration **file** is not used.
in this preferred embodiment of **process control** decision and
measurement program 1010.

The attached preferred embodiment of **program 1010** is **written**
in the C programming language, and contains a total of 20 files.